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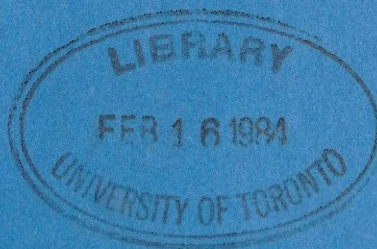
Federal and Provincial Government Requirements for Transportation Statistics in Canada

1982

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Transportation and Communications
Division

**Federal and provincial government
requirements for transportation sta-
tistics in Canada**

1982

A partial catalogue of the demand for
transportation statistics prepared for
the Federal-provincial Committee on
Transportation Statistics by its
Working Group on Data Demand

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TABLE OF CONTENTS

	Page
Introduction	
Background	7
Structure	7
Limitations	9
Further Information	9
Part	
I. Master Summary of Requirements	13
Market	15
Traffic	15
Infrastructure	18
Vehicle	19
Transportation, General	20
Transportation, Services to	20
General	21
II. Summary of Requirements, by Province and User Department	23
Newfoundland	25
Development	25
Industry	25
Tourism	25
Newfoundland and Labrador Development Corporation	26
Fisheries	27
Mines and Energy	27
Energy Policy	27
Municipal Affairs	28
Rural, Agricultural and Northern Development	29
Agriculture	29
Transportation	29
Prince Edward Island	31
Agriculture and Forestry	31
Highways and Public Works	31
Planning	31
Transportation	32
Tourism, Industry and Energy	33
Nova Scotia	35
Finance	35
Gasoline and Diesel Oil Tax	35
Mines and Energy	35
Nova Scotia Energy Council	35
Municipal Affairs	35
Tourism	35

TABLE OF CONTENTS - Continued

	Page
Nova Scotia - Concluded	
Transportation	36
Planning	36
Policy	37
Registry of Motor Vehicles	38
Motor Vehicle Inspection	38
Licenses and Registration	38
New Brunswick	39
Transportation	39
Communications and Policy	39
Construction	41
Design	41
Planning	41
Right of Way	44
Traffic Engineering	44
Quebec	45
Transport	45
Planning and Development	45
Analysis	45
Studies	45
Programming	45
Evaluation and Orientation	45
Programs	45
Inland and Ocean Waters Transportation	46
Air Transportation	47
Ground Transportation, People	47
Ground Transportation, Goods	47
Engineering	47
Evaluation and Standards	47
Soils and Materials	47
Layouts and Projects	48
Traffic	48
Projects	48
Operations	48
Maintenance	48
Financial Management	49
Claims	49
Automobile Insurance Board of Quebec	49
Motor Vehicle Bureau	49
Licensing	49
Ontario	51
Transportation and Communications	51
Priority Development	51
Program Development	51
Drivers and Vehicles	51
Program Development	51
Municipal/Provincial Transportation	52
Transit	52
Aviation Services	52
Planning	53
Urban and Regional Planning and Land Use Analysis	53
Research and Development	57
Economic Policy	57
Systems Research and Development	58

TABLE OF CONTENTS - Continued

	Page
Manitoba	59
Supply	59
Demand	60
System Utilization	61
Performance Monitoring	62
Energy	63
Safety	63
Administration	63
Saskatchewan	65
Consumer and Commercial Affairs	65
Highway Traffic Board	65
Highways and Transportation	65
Mineral Resources	68
Policy, Planning and Research	68
Energy Conservation	69
Rural Affairs	69
Tourism and Renewable Resources	70
Tourism and Recreational Planning	70
Alberta	71
Education	71
Tourism and Small Business	71
Transportation	71
British Columbia	79
Education	79
Energy, Mines and Petroleum Resources	79
Environment	79
B.C. Ferry Corporation	80
Forests	80
Municipal Affairs	80
Tourism	81
Transportation and Highways	81
Yukon	87
Education	87
Highways and Public Works	87
Tourism and Economic Development	87
Northwest Territories	89
Transportation	89
Canadian Transport Commission	91
Air Transport; Research	91
Railway Transport; Research: Traffic and Tariffs	92
Water Transport; International Transport Policy; Research	93
Motor Vehicle Transport; Research	94
Research	94
Statistics Canada	95
Economic Statistics	95
Industry Product; Input-Output; Gross National Product; Labour; Prices	

TABLE OF CONTENTS - Concluded

TABLE OF CONTENTS - Concluded

	Page
Transport Canada	97
Strategic Planning:	97
Economic and Regional Analysis	97
Strategic Policy	97
Systems Planning	98
Strategic Studies	98
Transportation Development Centre	100
Air	100
Policy, Planning and Programming	100
Statistics and Forecasts	100
Airports and Construction Services	100
Marine	101
Surface	104
Policy and Analysis	104
Planning, Finance and Administration	104
Highway Transportation	104
Motor Carriers	104
Road and Motor Vehicle Traffic Safety	106
Railway Transportation	108

INTRODUCTION

This publication is a partial catalogue of transportation information used and needed by federal and provincial government departments and agencies, as reported by the sponsored Transportation officials to the Federal-provincial Committee on Transportation Statistics. It is a companion volume to **Statistical Information on Transportation Available from Federal and Provincial Governments**.

Background

Reporting to the Federal-provincial Consultative Council, chaired by the Chief Statistician of Canada, are a number of committees concerned with specific subject areas. One of these is the Federal-provincial Committee on Transportation Statistics, under the chairmanship of the Director of the Transportation and Communications Division of Statistics Canada. As a result of the Committee's 1978 annual meeting, a Working Group on Data Demand was formed under the chairmanship of Mr. D.L. Johnson of the New Brunswick Department of Transportation. This Working Group, together with those on Data Supply and Framework, were set up to carry out the Committee's mandate to identify unsatisfied demand for transportation statistics.

The Working Group on Data Demand developed a form for reporting data requirements, listing sources and commenting upon the quality and suitability of available data. Replies were gathered and presented in draft form under the title **Requirements for Transportation Statistics in Canada**. A second version was presented to the Committee at its 1980 Annual Meeting as the final report of the Working Group.

The present volume is basically that second version augmented, edited and retitled. It is intended not only to make a contribution to the Committee's work but also to provide some indication of the breadth and variety of uses for transportation statistics. The publication, particularly Part II, could be used, to a limited extent, as an indicator of what series are used by Canadian government transportation analysts. However, because coverage is incomplete, one could not conclude that publications which are not mentioned are not used. It could also serve to supplement the "Supply" report, since many entries include sources of information not mentioned in the earlier publication. Perhaps its greatest value to readers will lie in the variety of approaches to and viewpoints on transportation information represented. Users concerned with the future development of transportation statistics will find that each contributor lists areas of inquiry on which little or no statistics are available or suggests how existing series might be made more useful. Those interested in the classification of transportation statistics should examine the submissions, especially those of Ontario, Quebec and Manitoba, for fresh insights into ways of organizing transportation reference material.

Structure

The reports as received from the provinces, the territories and three federal agencies form the major portion of the publication. They appear as Part II. The provinces, in east-west order, are shown first, then the territories, and last the federal contributors. For the convenience of the reader, submissions in French have been translated into English. The Table of Contents lists the departments, branches and divisions contributing to this catalogue of requirements.

In Part I, a summary of Part II is provided, indicating areas of common interest, and the degree of disaggregation needed. Topics are listed under the same four general categories, Market, Traffic, Infrastructure and Vehicle, used in the Supply catalogue. Within each, the modes Air, Highway, Rail and Water are shown, followed by Multimodal, to indicate an interest in all or several modes, not always identified. Three additional categories have been added. "Transportation, General" lists topics related to transportation within the Canadian economy. "Transportation, Services to" covers activities which serve or facilitate transportation. "General" identifies interest in economic indicators and non-transportation industries or, in other words, the environment within which the transportation system operates. Within modes, types of data are listed, subdivided where interest warrants into sub-topics and types of collection activity needed to generate such statistics.

Since a comprehensive subject index for Part II might well prove to be longer than the text, the summary in Part I serves as a reader's guide to topics of interest. A brief description of the types of subjects to be found under each major topic follows.

Market. Covers topics related to the supply of and the demand for transportation. On the supply side is information on carrier operations and finance, on government involvement, on transportation equipment industries, and on transportation services. On the demand side is information on travel demand and modal choice, and on transportation expenditures.

Traffic. Shows, under each mode, what is moving or types of movements. For major subjects, the collection method needed to obtain the desired detail is indicated. Five basic types of collection activity are identified. These are:

1. Activity or volume: a count of vehicles or persons using a transportation infrastructure at a given point during a stated period of time.
2. Traffic flow: a portrayal of the volume of vehicles, persons or goods using an infrastructure between two adjacent points of entrance or exit and of those entering or leaving at a point. Sometimes flow statistics can also show the number entering at one point and leaving at various other points along the same route. Traffic flow statistics are in terms of a stated period of time.
3. Origin-Destination (O-D): a picture of the movements of persons or goods, or in some cases vehicles, from a point of entry to a modal infrastructure to their point of exit. Sometimes routing detail is also provided. These statistics are normally for a stated period of time, although the methodology used may introduce some lack of precision.
4. True Origin-Destination (True O-D): movements of persons, goods, containers and even in some circumstances vehicles, are traced from the location at which the journey began to the location of final destination, documenting route and changes of mode.
5. Personal Surveys: the information required is such that it cannot be obtained by observation or from documentation, but must be obtained from a passenger or driver. A wide range of personal characteristics - age, nationality, place of birth, residence, purpose of trip are only a few examples - can usually be obtained by means of a survey, through an interview or a questionnaire. Similarly, some information relating to a vehicle or its load can be obtained only from the owner, operator or driver.

Infrastructure. Is concerned with the highway, the railway, the airport, and terminals, their operation and finance, and related events. Accident statistics by location are listed here. Much of the data listed is administrative in nature. One term frequently used under both "Infrastructure" and "Vehicle" requires definition. An inventory is a collection of information which together gives a detailed description of a specific object or location - a stretch of highway, a vehicle, a site, a community - in terms of certain attributes of interest to the collector. Such data may or may not be collected to yield statistics, but their primary function is to yield an individual descriptive record.

Vehicle. Is concerned with the aircraft, the railway car, the motor vehicle, the ship; with its operating characteristics or its operator, and with related events such as accidents. The information may be in the form of a descriptive inventory, or it may relate to registration or licensing activities. Fuel statistics are also included here.

Transportation, general. Involves an overview of all transportation and its impact on the economy, the community and the household. Capital finance, government involvement, and comparative rates are also included.

Transportation, services to. Lists topics which concern ancillary services and facilities, and the near-carriers.

General. Refers to the larger environment which transportation serves and in which it operates. The economy, the community, the population and other industries are of concern to those studying transportation.

The entries in the columns indicate not only an interest in a topic, but the level of data aggregation required for a particular use.

Level of aggregation is indicated by four codes:

- A: Aggregate.** The need is for broad national or provincial totals of items such as operating costs.
- D: Detail.** The requirement is for some breakdown, either geographic or by item. Examples would be fuel costs, salaries and wages.
- I: Individual identifiable.** Data are required in the smallest reported detail, by carrier or by stretch of road for example.
- X: Unspecified.** Level of detail is not given.

Limitations

The information contained in this publication has been obtained in a relatively unstructured fashion from many people. Each entry represents a personal point of view related to a field of expertise. In some cases, the individual is a user of data collected by his own branch or division of government, and the requirement is described in terms of both what is collected and how it is used. In other cases, the respondent is an analyst, a user remote from collection: the requirement is described in terms of its use in a complex analytical structure. The summary is a description of demand in terms of data to be supplied. Thus a certain amount of interpretation was involved in describing the user's need in a form to which a collector could react.

Logically, types of transportation information described in this publication, and available from provincial or federal sources, should have been shown in the Supply catalogue published in 1980. Similarly, information listed in the Supply catalogue might be expected to appear in this publication as a requirement. The two are far from parallel. Indeed, some items listed under supply are shown as gaps under demand. Such anomalies are due to a number of factors including incomplete coverage in both publications, lack of communication between publisher and user, and differences in the groups canvassed by the two committees.

Further Information

For the convenience of those wishing further information concerning sources and uses of information listed in Part II, a list of initial contacts is provided. Through those named, the reader should be able to reach those familiar with the programs of interest.

Newfoundland

Mr. George Courage
Director
Newfoundland Statistics Agency
Executive Council
3rd Floor, Confederation Building
St. John's, Newfoundland
A1C 5T7
Tel.: (709) 737-2913

Mr. Steve Bugden
Transportation Officer
Transportation Division
Department of Transportation
St. John's, Newfoundland
A1C 5T7
Tel.: (709) 737-3279

Prince Edward Island

Mr. John Palmer
Director, Planning and Statistics
Department of Finance
2nd Floor
Walter Shaw Building
Rochford Street
Charlottetown, Prince Edward Island
C1A 7N8
Tel.: (902) 894-8112

Mr. K.A. MacKenzie
Director of Transportation
Highways and Public Works
P.O. Box 2000
Charlottetown, Prince Edward
Island
C1A 7N8
Tel.: (902) 892-7431

Nova Scotia

Mr. Paul Dober,
Director, Statistics and Research Services,
Finance and Administration Division,
Department of Development
8th Floor, Bank of Montreal Tower
5151 George Street
Halifax, Nova Scotia
B3J 2R7
Tel.: (902) 424-5691

Mr. Hugh Mellon
Transportation Economist
Department of Transportation
P.O. Box 186
5151 George Street
Bank of Montreal Building,
8th Floor
Halifax, Nova Scotia
B3J 2R7
Tel.: (902) 424-6728

New Brunswick

Mr. Clifford R. Marks
Director, Economic and
Statistics Branch,
Department of Finance
Room 350, Centennial Building
King Street
Fredericton, New Brunswick
E3B 5H1
Tel.: (506) 453-2381

Mr. Doug Johnson
Transportation Policy Officer
New Brunswick Department of
Transportation
Transportation and Communications
Policy Branch
King's Place
Fredericton, New Brunswick
E3B 5H1
Tel.: (506) 453-2802

Quebec

M. Yvon Fortin
Directeur général
Bureau de la statistique du Québec
117, rue Saint André
Québec (Québec)
G1K 3Y3
Tel.: (418) 643-5030

M. Raymond Hamelin, Ing.
Service de la statistique
Ministère des transports
700 boulevard St. Cyrille Est
Place Hauteville, 23ième étage
Québec (Québec)
G1R 5A9
Tel.: (418) 643-6355

Ontario

Mr. Gustave Szabo
Interim Management Coordinator
Central Statistical Services
Ministry of Treasury and Economics
3rd Floor, Frost Building North
Queen's Park
Toronto, Ontario
M7A 1Y7
Tel.: (416) 965-3792

Mr. Ven-chi Ma
Manager, Demand Analysis and
Forecasts Office
Policy Planning and Research
Division
Ontario Ministry of Transportation
and Communications
1201 Wilson Avenue
Downsview, Ontario
M3M 1J8
Tel.: (416) 248-3795

Manitoba

Mr. Wilf Falk
Director
Manitoba Bureau of Statistics
6th Floor, 1 Lakeview Square
155 Carlton Street
Winnipeg, Manitoba
R3C 0V8
Tel.: (204) 944-2988

Dr. John Rea
Director
Transportation Division
Manitoba Department of Highways
and Transportation
11th Floor
215 Garry Street
Winnipeg, Manitoba
R3C 3Z1
Tel.: (204) 944-2005

Saskatchewan

Mr. Ronald C. McMahon
Director
Saskatchewan Bureau of Statistics
Room 207, Walter Scott Building
3085 Albert Street
Regina, Saskatchewan
S4S 0B1
Tel.: (306) 565-6327

Mr. Masood Hassan
Assistant Planning Engineer
Deputy Minister's Division
Department of Highways and
Transportation
1855 Victoria Avenue
Regina, Saskatchewan
S4P 3V5
Tel.: (306) 359-4776

Alberta

Mr. Harvey Ford
Director
Alberta Bureau of Statistics
7th Floor
Sir Frederick W. Haultain Building
9811-109th Street
Edmonton, Alberta
T5K 0C8
Tel.: (403) 427-3058

Mr. Al Werner
Manager
Transportation Planning Services
Transportation Building, Room 181
9630-106th Street
Edmonton, Alberta
T5K 2B8
Tel.: (403) 427-7944

British Columbia

Dr. W.P. McReynolds,
Assistant Deputy Minister and
Provincial Statistician
Central Statistics Bureau
Ministry of Industry and Small
Business Development
Toronto Dominion Bank Building
3rd Floor, 1405 Douglas Street
Victoria, British Columbia
V8V 4R9
Tel.: (604) 387-1502

Mr. George A. Clark
Director
Transport Policy Analysis Branch
Ministry of Transportation &
Highways
Parliament Buildings
Victoria, British Columbia
V8V 1X4
Tel.: (604) 387-5996

Yukon Territory

Mr. Colin Heartwell
Director
Economic Research and Planning
Department of Tourism and Economic Development
Yukon Government Building, P.O. Box 2703,
2nd Avenue, 1st floor, S.W. Corner,
Whitehorse, Yukon Territory
Y1A 2C6
Tel.: (403) 667-5461

Northwest Territories

Dr. Ralph Joyce
Territorial Statistician
Bureau of Statistics
Executive Committee Secretariat
Laing Building, 5th Floor,
Franklin Avenue (50th Ave. and 49th Street
Yellowknife, Northwest Territories
X1A 2L9
Tel.: (403) 873-7147

Canadian Transport Commission

Mr. Roger Roy,
Acting Chief,
Econometrics Group,
Research Branch, Room 1523,
Canadian Transport Commission,
Les Terrasses de la Chaudière,
15 Eddy St.,
Hull, Québec
K1A 0N9
Tel.: (819) 997-2691

Transport Canada

Ms. S. Barker
Chief
EDP Systems Section
Economic and Regional Analysis Branch (DERA)
Strategic Planning Group
Transport Canada
Tower 'C', Section 'E'
22nd Floor, Place de Ville
Ottawa, Ontario
K1A 0N5
Tel.: (613) 993-5063

Statistics Canada

Miss I. June Forgie
Assistant to Director
Transportation and
Communications Division
Statistics Canada
Ottawa, Canada K1A 0V1
Tel.: (613)-996-9271

Any of the Regional Offices of Statistics Canada as listed below.

St. John's

Statistics Canada
2nd Floor
Viking Building
Crosbie Road
St. John's, Nfld.
A1B 3P2
(709) 737-4073

Halifax

Statistics Canada
3rd Floor
1256 Barrington Street
Halifax, Nova Scotia
B3J 1Y6
(902) 426-5331

Montreal

Statistics Canada
7th Floor
Alexis Nihon Plaza
1500 Atwater Avenue
Montréal, Quebec
H3Z 1Y2
(514) 283-5725

Ottawa

Statistics Canada
Central Inquiries
Lobby, R.H. Coats Bldg.
Ottawa, Ontario
K1A 0T6
(613) 992-4734

Toronto

Statistics Canada
10th Floor
25 St. Clair Avenue East
Toronto, Ontario
M4T 1M4
(416) 996-6586

Winnipeg

Statistics Canada
Room 602
General Post Office
266 Graham Avenue
Winnipeg, Manitoba
R3C 0K4
(204) 949-4020

Regina

Statistics Canada
530 Midtown Centre
Regina, Saskatchewan
S4P 2B6
(306) 359-5405

Edmonton

Statistics Canada
Suite 215
Hys Centre
11010 - 101 Street
Edmonton, Alberta
T5H 4C5
(403) 420-3027

Vancouver

Statistics Canada
Main Floor
1145 Robson Street
Vancouver, B.C.
V6E 3W8
(604) 666-3691

In the Maritimes, toll-free access to the Halifax Office is available by calling 1-800-565-7192. Throughout Saskatchewan, the Regina office can be reached by dialing 1(112)-800-667-3524 and in Alberta, the Edmonton office can be reached at 1-800-222-6400.

Part I

MASTER SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA

MASTER SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA

Level of Detail

A = Aggregates
D = Detail
I = Individual identifiable
X = Unspecified

Type of data or survey	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	CTC	SC	TC
<u>MARKET</u>															
<u>Air</u>															
Air carrier	D	X			DI	DI				D	D	D	DI		DI
<u>Highway</u>															
Bus intercity services						DI			D	DI	D		D	DI	DI
School bus services					D									D	
Taxis					DI			D				DI	DI	D	DI
Trucking				D	D			D		D	D	DI	DI	D	DI
for-hire				D	D			D		D	D	DI	D	D	DI
private				D	D				DI			DI	D	D	DI
Urban transit			DI	D	D	DI									
<u>Rail</u>															
Railways					DI	DI				DI	DI		DI		DI
<u>Water</u>															
Carriers			DI		D					DI	D	D	D		DI
<u>Multimodal</u>															
Transportation Services					DI	DI	DI							D	D
freight	D	D			D	D		D	D	D				D	D
passenger															
physically handicapped						DI						D	D		
government involvement						D	D	D	D						
modal choice						D			D						
Transportation expenditures						D			D						
Travel demand characteristics						D									
<u>General</u>															
Couriers														D	
Transportation Equipment Industries	D		D		D	D				D					D
<u>TRAFFIC</u>															
<u>Air</u>															
Cargo, freight	D			D	X	D			X	X	X	X			DI
commodity O-D	D			D					X	D		X			

- 16 -

A = Aggregates
D = Detail
I = Individual identifiable
X = Unspecified

Level of Detail

A = Aggregates
D = Detail
I = Individual identifiable
X = Unspecified

Type of data or survey	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	CTC	SC	TC
TRAFFIC - Concluded															
<u>Rail - Concluded</u>															
Railway passenger volume			D			DI									D
traffic flow													D		D
O-D		D		D		D		D	D				D		D
personal survey		D				D									
<u>Water</u>															
Vessel	D	D			D										DI
Port	D	D	D	D	D					D					DI
Commodity, freight	D	D	D	D						DI			D		D
Passenger															
Ferry			DI	X	D					DI					
passenger	DI			D											
vehicle	DI			D											
<u>Multimodal</u>															
Border crossings															
tourist			X			X	D	X	D		X				
vehicle		X	X	X				X		D					
freight	X	X						X		X					
Commodity															
movements, flow	D						D	D		D					D
loadings, unloadings	D	D			D		D	D	D	D					D
O-D	D			D			D	D							D
true O-D							D		D						DI
Freight O-D		D			D									D	
Shipment - Value							D								
Transport - unit flow														D	
Passenger															
traffic	D						D								
O-D							D								D
true O-D							D								DI
trip purpose															
Tourist															
traffic flow			D			X	X		X						
O-D		D				D	D								
personal survey															
Travel								X							
Travel-to-work						D		D	D						
Trip statistics								D	D						

Level of Detail

A = Aggregates
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Type of data or survey	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	CTC	SC	TC
<u>INFRASTRUCTURE</u>															
<u>Air</u>															
Airport															
descriptive															
demand/utilization						X		X							D
Air terminals								X							D
<u>Highway</u>															
Inventory - descriptive	D			D	D	D	D	D							D
Accidents - location		D		D	D			D							D
Accident rates				D	D			D							D
Length			D	D				D							D
Finance		D		D				D							
Construction cost per unit				D				D							
Construction accidents				D				D							
Maintenance cost				D				D							
Land inventory				D				D							
Material sources inventory				D			D			D					
Logging roads															
Municipal roads															
finance	D							D							
inventory						D									
length	D							D							
standards								D							
Urban/rural transition zones								D							
Scales				D				D							
Noise								D							
Production time		D													D
<u>Rail</u>															
Railway infrastructure							DI						D		
<u>Water</u>															
Ice-breaking, financial					X										
Shore personnel					X										
Port and support system										X					
<u>Multimodal</u>															
Transport system	X						DI				X				D
Intermodal links							DI								D
Terminals							D								

Level of Detail

A = Aggregates
D = Detail
I = Individual identifiable
X = Unspecified

Type of data or survey	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	CTC	SC	TC
INFRASTRUCTURE - Concluded															
<u>Multimodal - Concluded</u>															
Railway crossings							D	D		D					
Land use															
VEHICLE															
<u>Air (Aircraft)</u>															
Accident															DI
Bird strikes						X									DI
Fuel consumption						X									
Operating costs						X									
Types in service						D									
Utilisation	D						D								
<u>Highway (Motor Vehicle)</u>															
Accidents	X		X		X					X	X				D
statistics															
analysis				D		D	D	D		D	D				D
costs															
Descriptive data															D
Drivers' licences		D	D	D	D	D	D	D							D
Fuel consumption, economy			D	D	D	D		D							D
Fuel sales	D													D	
Operating cost			D	D	D	D			D		D				D
Ownership						D									D
Population			D	D	D	D									D
Registrations	D		D	D	D			D				D		A	D
Special licences, permits															
Rental rates				D											
Safety, road-worthiness			X			X	X			D					D
Sales, shipments															D
Scrappage rates															D
Speed															D
Utilization															
Travel/fuel price elasticity			D	D	D										
Urban transit						X									
<u>Rail (Rolling Stock)</u>															
Accident statistics															
Fuel consumption	D					X				D					

Level of Detail

A = Aggregates
D = Detail
I = Individual identifiable
X = Unspecified

Type of data or survey	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	CTC	SC	TC
VEHICLE - Concluded															
Water (ships, vessels)															
Registry	D														DI
Multimodal															
Accidents analysis highway/rail							D			D					D
Energy, fuel consumption cost, price demand						D	DI			D					D
distribution, sales efficiency revenue						D	DI	D		D	D	X			D
Fleet							DI					X			D
Operator licensing								X							
Population															X
Safety									X						X
User costs								X							
Utilization															
TRANSPORTATION, GENERAL															
Consumer price index								D							
Economic activity						X									
Environmental impact										X					
Facilities by community									D						
Finance, capital															
Government involvement															
Rates, by commodity							D						D		D
Transportation expenditures/ Total household, personal expenditures						X									D
Value added															
TRANSPORTATION, SERVICES TO															
Highway															
Parking costs															

MASTER SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Concluded

Level of Detail

A = Aggregates
D = Detail
I = Individual identifiable
X = Unspecified

Type of data or survey	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	CTC	SC	TC
TRANSPORTATION, SERVICES TO -															
Concluded															
<u>Water</u>															
Pilotage - financial			X	X											
<u>Multimodal</u>															
Brokers and agents					X										
Freight forwarders															X
GENERAL															
<u>Economic Indicators</u>															
Community profile															
Consumer Price Index															
Employment location						X									
Energy statistics															
Industrial output															
Interest rates				X											
National accounts				X											
Population			D	D											
vehicle ownership			D	X		X		D							D
wages and salaries															
<u>Other Industries</u>															
Agriculture - crop reports															
Fishing - landings															
Forestry			X												
Inter-corporate ownership															
Production sites, rates															

Part II

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA

Newfoundland

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Development				
Industry	Commodity flow statistics by mode of transport showing detailed product description, volume, value by origin/destination.	Monitor levels of imports into province. Monitor mode utilization.	Not available.	
	Improvement to interprovincial trade statistics by improving product description required on Bills of Lading.	Opportunity identification.	Inadequate.	
	Boatyard production/employment statistics.	Monitor secondary activity to fishing industry.	Inadequate.	
	Volume of bus passenger traffic by stop.	Program planning and review purposes.	VIA Rail.	
Tourism	Characteristics and destinations of bus passengers.	Program planning and review purposes.	Not available.	
	Volume of tourism-related vehicle traffic within province, by origin.	Program planning and review purposes.	Not available.	
	Volume of air passengers by airport by month by carrier (boarding and deplaning).	Program planning and review purposes.	Supplied by air carrier now.	
	Volume of air passengers by airport, by month, by foreign carrier.	Program planning and review purposes.	Cander Office.	
	Characteristics, origins and destinations of air travellers.	Program planning and review purposes.	Not available.	Once every three to five years department carries out a survey during summer months. Require more information on the other periods.
	Volume of international traffic by type of carrier, by port, by month of entry.	Program planning and review purposes.	Statistics Canada.	
	Volume of passengers by month entering/exiting province via CN Marine.	Program planning and review purposes.	CN Marine.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Newfoundland - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Development - Concluded				
Tourism - Concluded	Passengers travelling via CN Marine: Characteristics and destinations	Program planning and review purposes.	Not available.	Once every two years, department carries out a survey during summer months. Require more information on the other periods of year.
	Volume of passenger traffic by coastal ferries.	Program planning and review purposes.	CN Marine - Newfoundland, private carriers.	
	Characteristics, destinations/origins of passengers by carrier, by month (CN Coastal Ferry).	Program planning and review purposes.	Not available.	
	Volume of vehicles by month, by origin, by type, exiting province via CN Marine.	Program planning and review purposes.	Agriculture Canada.	
Newfoundland and Labrador Development Corporation				
	Commodity volumes tabulated by commodity, by ports of lading/discharging, by places of origin/final destination (especially in Newfoundland).	Trend analysis of commodity flows.	Not available.	
	Freight rates by mode for large centres within the province.	Information requests from prospective clients.	Not available.	
	Information on trucking industry and restrictions.	Information requests from prospective clients.	Not available.	
	Movement into the province of commodities applicable to the fishing industry.	Verification and assessment of development proposals.	On a confidential basis.	
	Movement of fish products out of the province and their destination.	Verification and assessment of development proposals.	On a confidential basis.	
	General transportation statistics.	Development and analysis of various proposals.	Atlantic Provinces Transportation Commission.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Newfoundland - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Fisheries				
	Provincial movements of fish by truck.	Distribution analysis.	Not available.	
	Exports (current) by mode of transport of fishery products.		Not available.	
Mines and Energy				
Energy Policy	Air Cargo and passenger movement between airports in the province, interprovincially and internationally - information on type of planes in service.	Analysing historical and current air movements, and projecting future make-up.	Statistics Canada Catalogues (51-002) Air Carrier Operations in Canada, (51-003) International Air Charter Statistics, (51-207) International Air Charter Statistics, (51-004) Aviation Statistics Centre Service Bulletin, (51-005) Air Carrier Traffic at Canadian Airports, (51-203) Air Carrier Traffic	Most of the information provided in these publications is relevant; however, it appears that little information is available on smaller provincial airlines. Also could use more information on type of cargo carried.
	Rail Cargo movement by type and volume of goods in province and interprovincially.	Analysing existing and likely future of railway in province.	Statistics Canada Catalogues (52-205) Railway Freight Traffic, (52-210) Railway Transport, Part IV.	Good information.
	Fuel consumed by railways in province.		Statistics Canada Catalogue (52-209) Railway Transport, Part III.	
	Road Fuel sales by month and year for province - motor gasoline, diesel fuel oil, liquefied petroleum gases.	Analysing historical and current use, projecting future fuel requirements.	Statistics Canada Catalogue (53-218) Road Motor Vehicles - Fuel Sales.	Need more information on passenger, commercial use of both gas and diesel fuel. (May require special surveys.)

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Newfoundland - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Mines and Energy - Concluded				
Energy Policy - Concluded	Road - Concluded Motor vehicle registrations by number, type, weight, year, engine size and type (i.e., gas, diesel).	Analysing historical and current vehicle stock, and projecting future make-up.	Statistics Canada Catalogue (53-219) Road Motor Vehicles. Registrations.	Need more information on vehicle classification, weight, engine size and type (gas, diesel). Some of this information is provided by Provincial Department of Transporta- tion and Communications but needs improvement.
	Cargo and freight movements by trucking firms in province.	Understanding historic, current and future of truck transport.	Statistics Canada, Catalogue (53-224) For-Hire Trucking Survey.	Need more information on freight movement in prov- ince, inter-provincially and internationally.
	Water Coastline and international shipping within, from and to province by commodity.	Analysing historic and current make-up of prov- incial, national and international movement of goods, with the intention of predicting future shipping operations in the province.	Statistics Canada, Catalogues (54-203) Shipping Report Part II, International, (54-204) Shipping Report Part III, Coastwise.	Both of these publications which provided reasonably good information have been discontinued. Will be replaced by Catalogues (54-209) International Vessel Traffic and (54-210) Coastwise Shipping statistics, both of which I have not yet seen. We need at least the same type of information provided in Catalogues 54-203 and 54-204. Also need infor- mation on fuel con- sumption - currently aggregated with Atlantic region in Catalogue (54-205) Water Transpor- tation.
Municipal Affairs	Local road mileage and main- tenance expenditures by municipality.	Municipal finance and administration.	Not available.	Not known to be currently available on consistent basis or at individual municipality level. Demonstration stages

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Newfoundland - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Municipal Affairs - Concluded				
	Traffic movements - origin, destination and volumes on provincial highways.	Regional planning.	Available from Provincial Department of Transportation and Communications.	Known to be available but little used.
Rural, Agricultural and Northern Development				
Agriculture	International shipping.	To determine our imports.	Statistics Canada.	
	Coastwise shipping.	To determine our imports.	Statistics Canada.	Some items too general, should be more specific (i.e., meat).
	Interprovincial movement of agricultural products by commodity, origin and destination.			
	Imports through Port-aux-Basques by truck.	To determine our imports.	Not available.	Data on fluid milk in tanks, eggs and live poultry are collected by Agriculture Canada. Some data are also collected on fresh vegetables but these figures are not considered reliable.

Transportation

Highway-railway accidents.	Evaluate need for improved railway crossings.	Not available.	
Accident data from other provinces.	Identify ways to improve safety.	Not available.	
Surfaces publication.	Reference material for a wide range of highway policy issues e.g., Licensing.	Not available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Prince Edward Island

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Agriculture and Forestry				
	Vegetable unloads on P.E.I.	Determine volume of vegetables coming to P.E.I. and determine potential market opportunity.	Unload report for major cities (Halifax and Saint John in Maritimes).	
	Crain movement into and out of the province.	Determine market potential for grain and value to farmers.	Into P.E.I. from Canadian Livestock Feed Board.	
	Freight costs from P.E.I. to points in Ontario, New England and Newfoundland. Also to offshore markets including the Caribbean and Venezuela.	Knowledge of costs for transporting agricultural produce.	Not available.	
Highways and Public Works				
Planning	Motor vehicle operating characteristics Fuel Maintenance Ownership Depreciation	To evaluate impact of highway planning on users.	Not available.	Current data from a variety of sources not sufficiently comprehensive in terms of the relationship between operating characteristics and roadway geometry/condition.
	Financial data Expenditure Capital Maintenance Revenue	To evaluate the impact of improving the highway local situation with other jurisdictions.	Currently not available.	
	Value of time	To assign benefits accruing due to time saving.	Not available.	Research required to arrive at a realistic value for time.
	Highway accident data	To determine accident information for various typical highway classifications and standards.	P.E.I. Highways.	
		To improve information on safety improvements required on the highway system.		

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Prince Edward Island - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highway and Public Works - Continued				
Planning - Concluded	Traffic volume Average Annual Daily Traffic (AADT) Average Seasonal Daily Traffic (ASDT) Hourly Seasonal and daily variation Growth rates	To evaluate demand relative to highway capacity. To facilitate long range forecasting of demand.	P.E.I. Highways.	
	Origin - destination Desire lines Vehicle classification Trip purpose classification	To determine highway strength requirements; to allocate user benefits according to trip purpose and costs according to trip purpose, and costs according to vehicle type.	P.E.I. Highways - 1979 Atlantic provinces O-D Survey.	
	Trip generation Commercial Shopping centre Fast food Residential Industrial	To evaluate the impact of new development on the existing highway system.	Institute of Transportation Engineers.	Current data not sufficiently comprehensive and sample sites are generally very small.
Transportation	Bus passenger O-D to and from P.E.I.	Modal cost comparison, financial data, revenues, fuel economy, energy savings information (comparison), ferry capacity, ferry design, charter, recreation home base charters. Project future annual traffic flow, accommodation requirements and needs.	Not available.	Carriers VIA Rail, Chartered, SMT Ltd., Acadian Lines, Voyageur Bus, Charters, Other.
	O and D information on rail passenger movements to and from and within the Maritime provinces.	To monitor passenger travel trends.	Not available.	Should be available from VIA Rail Canada.
	O and D statistics for all interprovincial freight movements for all modes.	To obtain a complete record of interprovincial commodity movements and volumes.	Not available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Prince Edward Island - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Public Works - Concluded				
Transportation - Concluded	Distribution of highway transport freight movements between licensed motor carriers and private truckers.	To permit evaluation of impact of freight subsidies.	Not available.	
	Empty and near empty (trucks) Backhaul (trucks).	Modal cost, financial data.	Not available.	Source: P.E.I. Weigh Scales.
	Freight moving to and from P.E.I. by highway transport, by commodity and volume.	To obtain a complete record of interprovincial commodity movements and volumes.	Record of truck movements maintained by highway scales.	Legislation and regulations exist which provide authority to stop all trucks at highway scales.
	Inbound and outbound rail freight tonnage by commodity.	To obtain a complete record of interprovincial commodity movements and volumes.	Not available.	Available from CN Rail records.
	Domestic and foreign ship movements to and from four principal ports.	To maintain record of traffic statistics.	Available on request.	
Tourism, Industry and Energy	Volumes of individual water-bound commodities loaded and unloaded at four principal ports.	To obtain a complete record of interprovincial and international commodity movements and volumes, and establish transportation demand.	Sometimes available on request.	
	Daily count of rail passengers entering or exiting P.E.I. (by VIA Rail bus extension), by residence origin, party size, type of fare and purpose of trip.	To obtain tourist visitation figures and basic market information to aid in marketing programs and tourist industry development.	Obtain total passenger figures at end of season on request from VIA Rail.	
	Daily count of tour buses entering/exiting P.E.I. by company, origin and tour name and related number of passengers by residence, origin and personal party size.	To obtain tourist visitation figures and basic market information to aid in marketing programs and tourist industry development.	Obtain daily counts of bus tours on request from appropriate accommodation operators and periodic related origin, and demographic information by departmental surveys.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Prince Edward Island - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Tourism, Industry and Energy - Concluded				
	Non-resident traffic flows in-province by type of vehicle and whether vehicle owned, borrowed, or rented and by residence origin, party size, type of transportation used to reach P.E.I. and purpose of trip.	To obtain tourist visitation figures and basic market information to aid in marketing programs and tourist industry development.	Information obtained intermittently through departmental tourist exit surveys.	
	Daily count of passenger-related motor vehicles entering or exiting P.E.I. by ferry, by vehicle type, residence origin (province or state) and purpose of trip and related number of passengers.	To obtain tourist visitation figures and basic market information to aid in marketing programs and tourist industry development.	Obtain existing vehicle counts by type and some origin information from records of CN Marine and Northumberland Ferries Ltd. Obtain further origin detail from departmental sample counts May to October. Periodic exit surveys provide information on party size, etc.	
	Daily count of air passengers entering/exiting P.E.I. by residence origin, party size, type of flight or fare (e.g., scheduled, charter, ABC, ITC) and purpose of trip.	To obtain tourist visitation figures and basic market information to aid in marketing programs and tourist industry development.	Obtain daily scheduled passenger counts from Air Canada and Eastern Provincial Airways. Obtain some information on origin, party size, and purpose of trip by personal sampling from May to October and additional information from periodic air exit surveys. Obtain no information on charter flights or private aircraft and little detail on fare types.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Nova Scotia

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Finance				
Gasoline and Diesel Oil Tax	Diesel fuel consumption by: Passenger vehicles Commercial highway vehicles	To determine compliance with regulation under the Gasoline and Diesel Oil Tax Act in respect to permits, fuel and reports.	Department.	
Mines and Energy				
Nova Scotia Energy Council	Information on relative modal fuel efficiencies and fuel consumption.	Conservation planning.	Statistics Canada; Energy, Mines and Resources.	
	Long-term projections of energy consumption in transportation and other sectors.	Conservation planning. Fuel demand/supply projections.	Statistics Canada; Energy, Mines and Resources; National Energy Board; N.S. Energy Council.	
Municipal Affairs				
	Information on journey to work (distance/mode/job location).	Community and public transit planning.	Statistics Canada; Decennial Canada Census.	
	Financial performance of municipal transit systems.	Provincial assistance program.	Department.	
	Patronage of public transit facilities.	Urban planning and energy conservation promotion.	Statistics Canada; Municipal Affairs.	Statistics Canada, Catalogues (87-502) Culture Statistics: Travel to Work is helpful, (53-215) Passenger Bus and Urban Transit groups N.S. data with N.B. Such aggregation renders information useless. More detailed information on Halifax is necessary. Broader provincial coverage (New Glasgow and Sydney - Glace Bay) would be beneficial.
Tourism	Interprovincial and international ferry movements - load factors, schedules, etc.	Tour planning.	CN Marine.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Nova Scotia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Tourism - Concluded				
	Provincial ferry movements (load factors, schedules, etc).	Tourist planning.	Department of Transportation.	
	International border crossings.	Assess effectiveness of tourist promotion.	Statistics Canada; Occasional departmental surveys.	More data needed on mode of transit.
	Inter-provincial border crossing and travel patterns. Intra-provincial tourist flows.	Assess effectiveness of tourist promotion.	Not available.	
Transportation				
Planning	Complete breakdown of vehicle classification: Type and weight Licensing Fuel economy Fuel consumed	Traffic warrant for paving rural local road.	Existing information available not adequate. Registry of Motor Vehicles; N.S. Department of Development; Environmental Protection Service (EPS).	Some vehicles in particular cause problems, i.e., Station wagons - dual classification - regular and commercial; recreational vehicles.
	Vehicle metrage per year, private and commercial.		N.S. Department of Development; American Automobile Association (AAA); EPS; Miscellaneous. Not available.	Inadequate.
	Provincial fuel consumption and breakdown (revenue).		Gas and Diesel Oil Tax Administration.	Inadequate.
	Cost of money, opportunity cost and discount rate.		Department of Finance; N.S. Department of Development.	Not readily available.
	Private and commercial operating costs, gravel versus paved roads.	Traffic warrant for paving rural local road.	Not available.	
	Road metrage (km) Paved and unpaved for arterials, collectors and locals.	General.	N.S. Department of Transportation files (updated annually).	Common national terminology would be beneficial.
	Annual expenditures Capital and maintenance.		Department Annual Report.	
	Replacement of bridges.		Department files updated annually.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Nova Scotia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
Policy	Planning - Concluded	Annual Expenditures - Concluded Repaving (km). Paving (km). Traffic volumes. Accident Statistics.	Department files updated annually. Department files updated annually. Department (Traffic Division). Registry of Motor Vehicles.	
		Air Statistical information on first and second level air carriers.	Statistics Canada.	
		Patronage records to local airports.	Department.	
		Passenger O/D.	Statistics Canada.	
		Rail Information on national railway freight movements.	Statistics Canada.	
		Passenger levels.	Not available presently.	Irregular coverage at present.
		Marine Commodity volumes tabulated by commodity, by ports of loading/discharging, by places of origin-final destination.	Statistics Canada; National Harbours Board.	Present sources inadequate.
		Pilotage authority operating costs. Cost of pilotage services.	Atlantic Pilotage Authority.	Irregular reporting. Inadequate.
		Shipyard production statistics.	N.S. Department of Development.	
		Highway Intercity/inter-province international O/D information.	Not available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Nova Scotia - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (Raps)
Transportation - Concluded				
Policy - Concluded	Highway - Concluded Truck commodity flows.	Industrial development planning. Assessment of the implications of rate increases.	Occasional studies.	
	General requirements General economic indicators (GNP, local population levels, fish landings, etc.)	Background considerations in preparation of general policies.	N.S. Department of Development, Statistics Canada.	
Registry of Motor Vehicles	Weight of highway vehicles.	To maintain road quality and upkeep. Determination of compliance with provincial regulations.	Data on infractions maintained by department.	
Motor Vehicle Inspection	Motor vehicle standards (upkeep, safety, etc.).	On-going program to maintain vehicle road-worthiness. Determination of compliance with provincial regulations.	On-going departmental inspection. Data on infractions maintained.	
Licenses and Registrations	Information on the number of licensed drivers by location, license type, etc. Information on vehicle (passenger/commercial) and fuel type.	Maintenance of an on-going record of licensed drivers. Maintenance of an on-going record of vehicles.	Department. Department.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

New Brunswick

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation				
Communications and Policy	<u>Marine</u> Commodity, volumes, tabulated by commodity, by ports of loading/discharging, by places of origin/final destination.	Policy preparation. To plan appropriate marine facilities.	Statistics Canada; National Harbours Board.	Present sources inadequate.
	<u>Pilotage authority operating costs.</u> Cost of pilotage service.	Port planning.	Atlantic Pilotage Authority.	Irregular reporting inadequate.
	<u>Highways</u> Number of miles of road by type, number of new miles added per year. Costs (capital and operating).	Policy planning.	Not available.	
	Truck axle data on primary, secondary and industrial roads.	To determine trip ends, equivalent single axle loads, commodity flow, license class and vehicle registration. Used to establish design standard for pavement design, set policies and regulations for international and intra-provincial trucking, validate/calibrate commodity flow model.	Not available.	
	Trip characteristic diagram.	To determine trip distribution of thru, thru-stop, non-thru trips. Used to evaluate existing network, provide base for establishing truck routes, etc.	Not available.	
<u>Trucking</u>	Number of vehicles registered by province and by type (number of axles, configuration and type of power).	Policy planning.	Not available.	
	<u>Freight</u> Forest products by volumes, O/D, mode, commodity type.	Highway planning. Evaluation of trucking sector.	Not available.	Not available. Partially covered through O/D surveys done on regular basis.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

New Brunswick - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation -				
Continued				
Communications and policy -	Vehicle classification and occupancy.	Highway planning and policy work.	Not available.	
Continued	Operational cost information of various modes of passenger travel, broken down fine-grained to permit testing of potential system improvements.	Analysis of passenger system improvement options.	Some data available from operators, manufacturers as requested. More required (only needed occasionally, not ongoing).	
	Municipal Transit System - financial performance, patronage of municipal system.	Evaluation of transit service.	Not available.	
	Fuel - consumption and breakdown.	Highway planning and policy work.	Sources scattered. Data not always in form desired.	
	Inter-provincial - freight volume data (O/D), rail freight data, border crossing data.	Highway planning and policy work.	Partially collected on irregular basis. Not available.	
	Intra-provincial - freight movements, air freight volume data, traffic patterns, volumes, commodity characteristics.	Highway planning and policy analysis.	Not available.	
	Configuration permits.	For truck configurations not in regulations.	Maintained by department.	
	Blanket oversize and overweight permits.	Yearly records of oversize and overweight load.	Maintained by department.	
	Scale maintenance and operation.	Budgeting, maintenance scheduling.	Collected by department.	Also used for legal procedures.
	Passenger O/D data by mode - air, rail, intercity bus, urban transit, automobile (fine grained), provincial, regional, some national. Daily count of tour buses.	Analysis of passenger system requirements.	Disjointed. Mainly supplied by carrier.	Should be compatible for intermodal comparisons.
	Ferries-monthly traffic, passenger volumes, O/h data.	Analysis for future needs of the service and the area in general.	Some volume data supplied now by carriers - not O/h data. Only partially available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

New Brunswick - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
Communications and policy - Concluded	General economic indicators GNP, GPP, population, disposable income, interest rates, industrial output, etc.	Background information for policy analysis.	Currently supplied by Statistics Canada and N.B. government.	
Construction	Haulage rates for gravel asphalt, excavation.	Comparison and updating of our own rates.	Not available.	N.S. supplied annually.
Design	Highway construction price indices.	Estimate contract prices.	Not available.	
	Nation-wide account for highways. This could provide information such as: Length Number of lanes Average Annual Daily Traffic (AADT) Accident rates.	To have overall view of highways in Canada.	Not available.	
Planning	Highway Network File.	To analyze effectiveness of system as it exists and predict effect of proposed links.	Not available.	
	Speed radar surveys.	Cost-benefit studies.	Province.	Only available in an adhoc manner.
	Highway inventory data.	Highway sufficiency, cost- benefit analysis, transportation studies.	Province.	Weak in area of bridge load carrying capacity.
	Skid data.	Safety and recap programs.	Province.	
	Highway pavement deflection data.	Highway sufficiency rating system, needs studies, recap and paving programs, spring weight restrictions.	Province.	
	Tender contracts statistics.	Estimating construction costs.	Province.	
	Highway mapping inventory.	Planning studies in general.	Province.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

New Brunswick - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
Planning - Continued				
	Road user operating costs.	Benefit-cost analysis.	Not readily available.	
	Axle weights and restrictions.	For pavement design and life estimates; analysing changes in weight regulations.	To some extent by province.	Not extensive enough.
	Access control inventory.	Used in functional planning studies, and evaluating effectiveness of highway.	Province.	
	Right-of-way inventory.	Use in costing studies.	Province.	
	Design plans inventory and associated estimates.	Planning cost estimates.	Province.	
	Construction as-built plans.	Highway inventory data.	Province.	Not up-to-date.
	Financial forecast.	Inventory of jobs used in developing construction programs.	Province.	
	Road life inventory.	Used to visually inspect highway segments and historically trace the life of the highway.	Province.	Only means of tracing history of highway in province.
	Film inventory.	Highway needs studies and construction programs, transportation studies.	Province.	Last done in 1974.
	Highway weight restriction inventory.	Transportation studies.	Province.	
	Posted speed inventory.	Highway sufficiency rating system, transportation studies.	Province.	
	Trucking: For hire and private breakdown by rural and urban.	Operating characteristics operating costs.	Partly by Statistics Canada.	Insufficient information available.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

New Brunswick - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
Planning - Continued	Accident by type of accident, type of vehicle.	To analyse data for sufficiency rating system, benefit-cost analysis, highway needs study.	Province - Transportation.	Need better breakdown by vehicle type.
	Origin-destination data.	To determine if existing system meets requirements and help establish where new routes should be located.	Province - Transportation, Tourism. Statistics Canada surveys not adequate for provincial analysis.	1969 O-D General 1976 Truck O-D 1978 Acadian Peninsula O-D. 1979 O-D Highway and Department of Tourism Surveys.
	Vehicle utilization survey.	Analyze changing technology, future energy requirements, future highway capacity requirements.	Federal does, but have not seen results.	Results should be published and made available.
	Construction cost surveys.	Planning highway work.	Province.	Could improve estimates.
	Maintenance cost surveys.	Planning highway work, cost-benefit analysis.	Province on district basis.	Need tied to highway route number and control section.
	Traffic counts.	Highway sufficiency rating system, highway needs study, benefit-cost analysis, traffic and capacity analysis.	Some provincial. Some in municipalities.	Not strong coverage in municipalities.
	Registration data.	Analysis of accident data, energy requirements, benefit-cost analysis.	Provincial.	Computerized to some extent but require a better handle on vehicle mileage, etc.
	Vehicle inspection data. Age Miles (urban, rural) Weight Cylinders Fuel.	Analysis of accident data, energy requirements, benefit-cost analysis, transportation studies.	Provincial. Not all information collected.	Should be computerized.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

New Brunswick - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gap?)
Transportation - Concluded				
Right of Way	Land inventory: Rights of way Offtakes Pits Disposal areas Miscellaneous.	To better serve our needs and that of the public in questions relating to land.	Presently being compiled by Right of Way Branch.	
Traffic Engineering	International border crossings.	To supplement the traffic counting network and provide some verification of machine counts.	Federal Government.	
	Volume classification counts.	To provide data for planning and designing new highways and upgrading existing ones.	Partially done by department.	
	Volume counts.	General use for all functions of the department.	Department.	
	Accident statistics.	To provide data to identify problem locations.	Department.	
	Road life forms.	To present instant picture of characteristics of highway accidents, alignments, widths, intersections, bridges, etc.	Department.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Quebec

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transport				
Planning and Development:				
Analysis, Studies	Road traffic origin and destination surveys.	Research and planning.	Quebec Department of Transport.	Need to develop five-year data on an ongoing basis.
	Road system data (capacity and condition).	Research and planning.	Quebec Department of Transport.	
	Traffic volume (motor vehicle counts).	Research and planning.	Quebec Department of Transport.	
	Motor vehicle parking costs.	Research and planning.	Parking lot attendants.	
	Motor vehicle usage costs.	Research and planning.	Automobile Club of Quebec.	
	Miscellaneous local data on modes of transportation.	Research and planning.	Collected by the Studies Service Section.	High degree of geographic delineation.
	Motorization rate.	Research and planning.	Statistics Canada.	Unfilled need for annual data with a high degree of geographic delineation.
	Statistical data on regulation.	Research and planning.	Not available.	
	Intermodal market (brokers, agents, etc.).	Research and planning.	Not available.	
	Commodity origin and destination by mode and class of commodity.	Research and planning.	Statistics Canada.	The available data are incomplete.
Programming, Evaluation and Orientation	Company volume and market share.	Research and planning.	Not available.	
	Industrial concentration data.	Research and planning.	Not available.	
	Motor vehicle registration data.	Research and planning.	Quebec Department of Transport.	
Programming, Programs	Driver licensing data.	Planning and control.	Quebec Department of Transport.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Quebec - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transport - Continued				
Planning and Development - Continued				
Programming, Programs - Concluded	Driver license suspension data.	Planning and control.	Quebec Department of Transport.	
	Highway traffic accident data.	Research and planning.	Quebec Department of Transport.	
	Road surfacing data.	Research and planning.	Quebec Department of Transport.	
	Highway inventory (capacity, curves and grades).	Research and planning.	Quebec Department of Transport.	
	Highway traffic census.	Research and planning.	Quebec Department of Transport.	
Inland and Ocean Waters Transportation	Ferry services traffic volume, origin and destination.	Research and planning, control, regulation and safety.	Quebec Department of Transport.	
	Quebec water transport traffic statistics by port.	Research and planning.	Statistics Canada.	
	Quebec water transport traffic origin and destination statistics by port.	Research and planning.	Statistics Canada.	
	Quebec highway traffic volume statistics.	Research and planning.	Quebec Department of Transport.	
	Quebec highway traffic origin and destination statistics.	Research and planning.	Quebec Department of Transport.	
	Value of goods carried.	Research and planning.	Not available.	
	Seaway traffic data.	Research and planning.	Not available.	
	Marine personnel statistics (shipboard and dockside).	Research and planning.	Not available.	
	St. Lawrence icebreaker fleet data (investments and maintenance).	Research and planning.	Not available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Quebec - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transport - Continued				
Planning and Development - Concluded				
Air Transportation	Aircraft flow patterns in airports.	Research and planning. Subsidies.	Transport Canada.	
	Passenger origin and destination.	Research and planning. Subsidies.	Statistics Canada.	
	Air freight.	Research and planning. Subsidies.	Statistics Canada.	
	Financial statements.	Research and planning. Subsidies.	Airlines.	
	Airline airfares.	Research and planning. Subsidies.	Airlines.	
	For-hire passenger carrier operating and financial data.	Control, regulation, research and planning.	Quebec Department of Transport.	
Ground Transportation People	School board bussing, traffic volume and costs.	Control, regulation, research and planning.	Quebec Department of Transport.	
	Gross revenue of rail and road carriers.	Research and planning, regulation.	Statistics Canada.	Main source.
	Production inputs (wages, profit, depreciation).	Research and planning.	Statistics Canada.	Main source.
Ground Transportation Goods	Production study data (by employee ton-miles or by employee-hours).	Research and planning.	Statistics Canada.	Main source.
	Fuel purchases.	Research and planning.	Statistics Canada.	Main source.
	Financial and technical data.	Research and planning.	Statistics Canada.	Main source.
Engineering:				
Evaluation and Standards - Soils and Materials	Number, weight and dimension of vehicles.	Control.	Quebec Department of Transport.	
	Highway structural inventory.	Control.	Quebec Department of Transport.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Quebec - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transport - Continued				
Engineering - Concluded				
Evaluation and Standards - Soils and Materials - Concluded	Materials sources inventory.	Control.	Quebec Department of Transport.	
	Salt index.	Control.	Quebec Department of Transport.	
Layouts and Projects - Traffic	Traffic volume.	Research and planning.	Quebec Department of Transport.	
	Truck share of total traffic volume.	Research and planning.	Quebec Department of Transport.	
	Average speeds.	Research and planning.	Quebec Department of Transport.	
	Motor vehicle accident statistics.	Research and planning.	Quebec Department of Transport.	
	Highway bridge and viaduct clearances.	Research and planning.	Quebec Department of Transport.	
Projects	Rail traffic statistics.	Research and planning.	Statistics Canada.	
	Unit construction costs.	Estimation of highway construction project costs and fees.	Quebec Department of Transport.	
	Production hours as per plans and estimates.	Estimation of highway construction project costs and fees.	Quebec Department of Transport.	
Operations - Maintenance	Road maintenance costs.	Control and regulation.	Quebec Department of Transport.	
	Road conditions.	Control and regulation.	Quebec Department of Transport.	
	Road inventories.	Control and regulation.	Quebec Department of Transport.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Quebec - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transport - Concluded				
Operations - Concluded				
Maintenance - Concluded	Department fleet: Repair costs Hours of operation Fuel consumption Stock depletion rate.	Control.	Quebec Department of Transport.	
	Highway traffic volume.	Control.	Quebec Department of Transport.	
	Density of road motor vehicle traffic.	Control, regulation and safety.	Quebec Department of Transport.	
Financial Management				
Claims	Equipment rental rates.	Negotiation of claims.	Quebec Department of Public Works and Supply.	
	Unit construction costs.	Negotiation of claims.	Quebec Department of Transport.	
	Price indexes.	Negotiation of claims.	Statistics Canada.	
Automobile Insurance Board of Quebec				
Motor Vehicle Bureau, Licensing	Licence plate categories.	Control and regulation.	Quebec Department of Transport.	
	Motor vehicle fleet statistics.	Control and regulation.	Quebec Department of Transport.	
	Physical characteristics of motor vehicles.	Control and regulation.	Quebec Department of Transport.	
	Motor vehicle payload and registration costs.	Control and regulation.	Quebec Department of Transport.	
	Motor vehicles licensed by the Quebec Transport Commission.	Control and regulation.	Quebec Department of Transport.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Ontario

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communications				
Priority Development:				
Program Development	Information on population and employment factors that help to explain travel behaviour.	Annual update of cost/benefit base data.	Statistics Canada.	Provincial population, wage rates, disposable income, length of work week.
	Information regarding vehicle operating costs.	To calculate benefit totals due to highway route improvements.	Ministry of Transportation and Communication (MTC) - Demand Analysis Group, Urban and Regional Transport Planning Office, Planning Division.	Price of gasoline, diesel fuel, oil, tires, time/costs, maintenance costs and accident values.
	Highway traffic and inventory data and characteristics.	To analyse present and future traffic demands.	MTC-Provincial Roads Planning Services Office and Urban and Regional Transport Planning Office.	Average annual daily traffic, occupancy rates, peak hour flows, speed limits, distances, lane and shoulder widths.
Drivers and Vehicles:	Municipal traffic and inventory data and characteristics.	To be integrated with highway information as potential route alternatives.	Not available.	Data are provided for specific situations but could be improved upon.
	Trucking information volumes, mix and distribution patterns.	To measure the benefits of route improvements to the commercial trucking component of the overall flow.	Not available.	Not enough to know about daily truck flows on high trucking routes in particular.
	Private trucking.	Planning and monitoring.	Not available.	Comparable to Statistics Canada For-hire Survey.
	Information on safety and economic activity related to transportation.	Program planning and evaluation.	Safety information supplied mainly by police. Economic activity in the hands of Economic Policy Office.	
Program Development	Economic activity.		Not available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Ontario - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communities - Continued				
Municipal/Provincial Transportation:				
Transit	Urban Transit Population (of area served) Area served Revenue kilometres of service Route kilometres of service Number of vehicles by mode Line kilometres of exclusive facilities by type Revenue passengers Accidents Energy usage by type Adult cash fare and bulk rate Operating cost Revenue - farebox - other Municipal operating subsidy Provincial operating subsidy Capital subsidies - municipal - provincial Number of employees.	For the development of transit assistance policies and for relating performance nationally.	Co-ordinate Statistics Canada data with Canadian Urban Transit Association.	All statistics need to be clearly defined and agreed to.
Derivatives				
Revenue kilometre (or hour) per capita Passengers per capita Passengers per revenue kilometre (or hour) Deficit per passenger Cost per revenue kilometre (or hour) Revenue/cost ratio Revenue per passenger				
Air				
Aviation Services	Airport operational data to reflect the usage of an airport facility including: number of aircraft movements; number of passengers; and volume of cargo.	To evaluate the effectiveness of Ontario's airport development programs; a monitoring device for future airport facility needs.	TP-141 (Aviation Statistics Centre) - aircraft movements. Statistics Canada Catalogue 51-203 - Air Carrier Traffic volume of passengers and cargo.	Catalogue 51-203 includes only top 50 airports in Canada. Air carriers presently file required data for a number of other airports.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Ontario - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communications - Continued				
Municipal/Provincial Transportation - Concluded				
Aviation Services - Concluded	Air - Concluded Annual summary of aircraft operating expenses by type and by block hour of operation aggregated by air carriers.	Formulation of air service policies; studies related to air services in specific regions of Ontario; assessment of applications to the CTC/ATC (particularly those filed by "local" air carriers); comparison of cost effectiveness of aircraft type.	Not available.	Formerly published to some extent under Catalogue 51-004 Aviation Statistics Centre Service Bulletin.
	Operational data to determine load factors by carrier on a point-to-point basis for both domestic and international service for: unit toll passenger service; charter passenger service; unit toll cargo service, and charter cargo service. Financial data including revenues and operating expenses by route and by air carrier.	Assessment of proposed alterations in existing levels of both scheduled and charter services for intra- and inter-Ontario routes. Route analysis, particularly.	Not available. Not available.	Presently filed by air carriers. Data published are not sufficiently detailed or complete. Presently filed by mainline air carriers.
Planning:				
Urban and Regional Planning and Land Use Analysis	Journey to work statistics at the urban and municipal level including trip length, modal split data. Tourism statistics of travel into/out of Ontario by origin, destination and modal split. Place of work information at the census tract and enumeration area level.	Travel behaviour, trend analysis data. Analysis of recreational tourist travel. Travel behaviour data, analysis of traffic volumes, journey to work: monitoring, projection of future transportation needs.	Statistics Canada. Statistics Canada. Statistics Canada.	Occasional item in labour force survey. Item in the decennial census.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Ontario - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communications - Continued				
Planning - Continued				
Urban and Regional Planning and Land Use Analysis - Continued	Vehicle ownership by various socio-economic characteristics by census tract or enumeration area.	Traffic projections, energy and travel behaviour studies.	Statistics Canada, MTC.	In preparation.
	Recreational travel characteristics, mode, length, purpose, frequency, etc.	Recreational travel demand studies.	MTC O/D Surveys.	Isolated cases for different years.
	Annual travel, mileage data (per person, per vehicle).	Travel behaviour, energy analysis.	Not available.	
	Fuel consumption for travel by municipal area.	Energy studies.	Not available.	
	Household and person travel patterns by various socio-economic characteristics.	Travel behaviour analysis, calibration of transportation models, life styles monitoring program.	Statistics Canada, MTC.	Part of old, dated surveys by MTC and special Statistics Canada surveys not currently being done.
	Transportation expenditures as proportion of total household and personal expenditure.	Travel forecasting, travel behaviour studies, energy studies.	Statistics Canada.	Irregular, danger of being discontinued.
	Transit expenditures and improvements by municipality and ridership levels.	Transit impact studies, transit cost effectiveness analysis.	Transit operators.	Variance in way data is available and defined.
	Journey to work.	Monitor time series changes, measures of work. Trip patterns for transportation planning for Ontario Demand Analysis.	Census Canada, Special surveys.	
	Urban goods movement.	Measure truck volumes O/D patterns, trip generation.	Not available.	Special surveys.
	Auto travel price elasticity to gasoline prices.	Travel behaviour.	Not available.	Not presently available.
	Travel time budgets.	Travel behaviour.	Not available.	Not presently available.

Ontario - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communications - Continued				
Planning - Continued				
Urban and Regional Planning and Land Use Analysis - Continued	Travel monetary cost budgets.	Travel behaviour.	Not available.	Not presently available.
	Household trip diaries by demographic/geographic group.	Travel behaviour.		Not presently available.
	Annual automobile mileages.	Travel behaviour, trend analysis.		Not presently available.
	Auto Road network. Costs - Government. Route miles. Quantity and quality material. Employment.	General monitoring and assessment of highway network. Basis for provincial position. Potential impact assessment.	Available. ? Available. Available. ?	
	Fuel consumption.	Energy monitoring.	Ministry of Revenue or Drivers and Vehicles Division, MTC.	
	Auto/passenger volumes. O/D volumes. User characteristics. Freight characteristics. Route revenues.	Monitor usage and assess implications. Prepare provincial position on various issues.	Counting Program. Roadside Survey. Roadside Survey. Isolated Survey.	
	Air Routes, frequency. Seat/aircraft miles. Aircraft movements. Operating costs Operator/Government. Equipment.	General monitoring and assessment of rail services. Form basis for provincial position on various issues.	Individual carrier schedule. Statistics Canada partial availability.	
	Employment.	Impact assessment.		
	Fuel consumption.	Energy assessment.		
	Passenger movements Level 1 and 2. Passenger movements Level 3.	Monitoring growth. To monitor changes.	Statistics Canada. Not available.	

Ontario - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communications - Continued				
Planning - Continued				
Urban and Regional Planning and Land Use Analysis - Continued	Air - Concluded Charter passengers. Airport demand. Freight usage. User characteristics.	General monitoring and assessment of passengers' response or usage. Basis for provincial position on various services.	Statistics Canada. Statistics Canada. Statistics Canada. Statistics Canada at gross level. Various surveys.	
	Rail Routes/frequency. Seat miles/route. Equipment/quantity/age. Costs Operator/Government.	General monitoring and assessment of rail services. Basis for provincial position on various services.	Schedules. CTC ? Long delay in getting information.	
	Employment.	Impact assessment.	CTC ?	
	Fuel consumption.	Energy monitoring.		
	Passenger volumes/route. Revenue/route.	General monitoring and assessment of passenger response or usage.	CTC. CTC.	
	Passenger O/D volumes. Charter/group travel. User characteristics.	Basis for provincial position on various rail services.	Ticket information system. Varied or not available. Varied or not available.	
	Bus Routes - frequency. Operators/fleet.	General monitoring and assessment of bus services.	Carrier schedules.	
	Vehicle miles/route miles.	Basis for provincial position.	Schedule, operator contact. Not readily available.	
	Costs Operator/Government.		Not readily available.	
	Equipment.		Contact operator.	
	Employment.	Potential impact assessment.		
	Fuel consumption.	Energy monitoring.		

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Ontario - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communications - Continued				
Planning - Concluded				
Urban and Regional Planning	Bus - Concluded Passenger volumes/route.		From MTC surveys/ carriers.	
Land Use Analysis - Concluded	Passenger O/D.	Monitor usage and assess implications.	From MTC surveys.	
	Route revenue. Charter/group travel. User characteristics.	Prepare provincial position on various bus services.	Not available. Various surveys.	
	Bus-Parcel Express: Usage.		Various surveys.	
Research and Development:				
Economic Policy				
	Inter-urban bus. Inter-urban rail. Both passenger and freight.	Evaluate regulatory requirements. Develop future policies. Respond to abandonment and evaluate future needs. Input to a broad range of policy issues. Planning decisions.	(1) Statistics Canada. (2) Bus companies. (3) Railway companies. (4) Ontario Government Ministries. (5) General reference material. (6) Public. (7) Additional statistics would be helpful if available.	Not necessarily an ongoing need. In many instances there are specific one-time needs. All statistics need to be clearly defined and agreed to.
	Note: Numbers below refer to numbers in "Source" column.			
	Operating Data Traffic (1) (2) (3) Major origins and destinations (2) (3) (6) (4) Charges (4) (2) (3) Inter-modal aspects (2) (3) (1) (4) (5) Service levels (1) (2) (3) Area of service (2) (3) (6) Users (1) (2) (3) (6) (5)			
	Financial Data Cost, revenues (1) (2) (3) (4) Profitability Measures (1) (2) (3) (5)			
	Impact Data Employment (1) (2) (3) (5) Alternative means of transport (5) (2) (3) (7) Beneficiaries (5) (2) (3) Economic implications (5)			

Ontario - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Communications - Concluded				
Research and Development - Continued				
Economic Policy - Concluded	Future Needs (5) (2) (3) (6)			
Systems Research and Development	Motor vehicle accident data.	Safety program research.	Ontario Government Records.	More identification of accident causation needed.
	Truck Data Frequency. Class. Weight.	Bridge design Level of service research. Energy management. Pavement research.	MTC Surveys.	
	Van cost - energy. Vehicle type.	Energy management.	EPA computer simulation.	More empirical Canadian data.
	Level of service (capacity calibration surveys).	Re-calibration of capacity definitions.	MTC Surveys.	More data needed. Could have a profound effect on highway improvement decisions.
	Vehicle make, number of cylinders, engine size, carburetor barrels, fuel type, model, year, transmission type, odometer, vehicle weight.	Energy management program.	Not available.	Not available in a single source. Some data available on registration forms.

Note: We are also advised that there are several agencies which are presently carrying out the function of collecting information on Transit Performance Indicators and Statistics. For example, the Ontario Urban Transportation Association and the Canadian Urban Transportation Association in conjunction with the Roads and Transportation Association of Canada (RTAC) have formed a committee on Transit Performance Indicators and Statistics. The Province, through the Transit Office of this Ministry and the Ministry of Inter-Government Affairs, is participating and contributing to this study.

Further, the Institute of Transportation Engineering has also established a committee on Transit Systems Productivity and Performance. This Committee's mandate is to establish guidelines as to what type of statistics are to be gathered and their ultimate use.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Manitoba

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Transportation (except where specified)	Supply			
	1. Identification of carriers by mode, including both public (commercial) and private operators.	Basic identification for any studies in transportation.	Limited availability.	Lack of disaggregated data hinders planning. Need Manitoba and regional-specific data.
	2. Employment of carrier/mode, by type and location and salaries and wages paid.	Monitoring, manpower outlook.	Statistics Canada (too aggregated for use).	
	3. Capital stock, investment and financing by carrier/mode and location.	Measuring competition, viability of operations, cost of service.	Generally available.	
	4. Identification of elements of the national transportation system by: (a) Nodes representing: Demand origin/destination. Transport system processing, access/egress or delineation points. (b) Links representing: Physical movement channels: the transport system itself. Access links from the demand O/D point to the modal system.	Information base for evaluation and planning intermodal, regional studies, standardization.	Some work done, for example Canpass.	
	5. Identification of nodal attributes including: (a) Identification of facilities. (b) Operators of facilities. (c) Capabilities/capacities. (d) Investments (by whom). (e) Capital and operating cost data. (f) Employment (by type/wage) (g) Land use.	(As in 4). Identification of trends for future planning.	Limited availability.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Manitoba - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Transportation - Continued	Supply - Concluded			
	6. Data on links, including: (a) Physical attributes, (tracks, weight of rail, lanes, etc.). (b) Quality attributes (speed limits, weight limits, size limits, etc.). (c) Investments (by whom). (d) Capital, maintenance and operating costs. (e) Employment (by type/wage). (f) Land use. (g) Inventory of Provincial Trunk Highway and Provincial Roads, (description, type, traffic count). (h) Traffic counts (by highway/vehicle type and occupancy).	Identification of system constraints for planning purposes.	Generally available, but link specific.	
Highways		Evaluation and planning.	Highways.	
		Planning.	Highways.	
	7. Service provided by schedule, by time period for each mode. Non-scheduled and private services by time period.	Evaluation of service.	Available from scheduled carriers.	Possible value in central computer file.
	8. Cost of providing service to/from specific points.	To compare costs with rates charged, eliminate inequities. Regulation.	Not generally released.	
	9. Fares and tariffs.		Normally published.	
	10. Equipment used, including: (a) Number of units by type, capacity, age, etc. (b) Investment data (c) Capital/operating costs (d) Energy usage	Planning input. Useful for system rationalization.	Available. Limited availability.	
	<u>Demand</u> 1. True O/D by mode, trip purpose.	System rationalization, forecasting future requirements.	Partially available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Manitoba - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Transportation - Continued				
	Demand - Concluded			
	2. Access/egress times and costs.			
	3. Tourist data on travellers entering province and Manitobans leaving province or travelling within province, by month, route, traveller characteristic, trip purpose, etc.	To design tourism marketing plan and program. Information base for development strategy.	Available in part from Statistics Canada Travel Survey.	
Highways and Transportation; Energy and Mines; Agriculture				
	System Utilization			
	1. Commodity flow by type in tons, carloads, etc.	Required by Mines for concentrates or refined minerals for planning and concerns about effect on mines.	Partially available.	
	2. Flow characteristics (periodicity).	Required by Agriculture for agricultural products and inputs for branch line analysis, planning, etc.		
	3. Transport unit flow data.			
	4. For each mode, origin, throughput, destination data including:			
	(a) Commodity quantities by type.			
	(b) Person trip data.			
	(c) Transport vehicles by operator/type.			
	(d) Performance data - On time, demurrage charges, delays, strikes, etc.			
	5. Equipment utilization, by type including:	Economic development, planning, assistance to industries, identifying need for improved equipment utilization, e.g., opportunity for two-way hauls:	Partially available.	
	(a) Percentage of time/mileage in use.	Coordinate car/trailer orders		
	(b) Percentage of time for positioning backhaul.	Arrange for alternate use of equipment during periods of reduced demand.		
	(c) Percentage of time out of use for maintenance.			
	(d) Percentage of time not in use (excluding backhaul), by type, by season.			
	(e) Cycle or turnaround times for selected applications.			

Station Activity Report produced by the Aviation Statistics Centre is a good example of a nodal utilization report.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Manitoba - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Transportation - Continued	<u>Performance Monitoring</u>			
	1. Financial (by carrier/mode):			
	(a) Return on assets.			
	(b) Return on investment.			
	(c) Debt/equity ratio.			
	(d) Profit margin.			
	(e) Investment turnover.			
	(f) Return on shareholders' equity.			
	2. Productivity			
	(a) Net income/employee.			
	(b) Capital costs/employee.			
	(c) Operating cost/employee.			
	(d) Sales/employee.			
	(e) Ton miles/employee.			
	(f) Person trips (km)/employee.			
	(g) Load factors by mode and route.			
	3. Market Share			
	(a) Percentage share of O-D commodity by mode.			
	(b) Percentage share of person trips by mode and purpose.			
	(c) Survey data (behavioural) on measures required to induce modal shifts.			
	4. Government Involvement			
	(a) Subsidies (direct and indirect) by route and mode.			
	(b) Government investment in infrastructure.			
		Rate setting (regulatory), state of industry examination.	Partially available.	Statistics Canada too slow for usefulness.
		Comparing viability of service, relative efficiency of modes, examining need for subsidies or discontinuance of service.	Can generally be derived from existing information.	
		To measure equity between modes.	Partially available.	
		Rationalization or energy allocation.	Not available.	
		To calculate total costs of providing service by modes.	Available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Manitoba - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Energy and Mines				
	<u>Energy</u>			
	1. Energy efficiency by mode/role.			
	2. Vehicle fleet size by type, location, age and energy consumption.	Forecasting fuel needs, fuel allocation.	Motor Vehicle Branch (MVB).	
Highways and Transportation - Concluded				
	<u>Safety</u>			
	1. Accidents by mode, type, location, deaths or injury and cost.	Vehicle data used in MVB for planning and policy.	MVB.	
	2. Bicycle/motor vehicle collisions.	Used in MVB for planning.	MVB.	
	<u>Administration</u>			
	1. Drivers licenses.	MVB	MVB.	
	2. Motor vehicle inspections.	MVB	MVB.	
	3. Driving instructors.		MVB.	
	4. Revenue from fines and penalties, costs of administration.			
	5. Soil and gravel inventory.	Planning.		Highways and Transportation.
	6. Patient air transportation.	Planning and evaluation.		
	7. Air Division aircraft utilization.			
Materials and Research; Renewable Resources				
Transportation Services				
Air				

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Saskatchewan

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Consumer and Commercial Affairs	Consumer price index for sub-components of transportation component.	Use as backup information in research projects. Disseminate information in response to enquiries.	Statistics Canada.	More details on the CPI for transportation provided for Canada than for the individual cities.
Highway Traffic Board	Statistical information on truck traffic patterns, volumes and commodity characteristics in Western Canada.	Assess changing traffic and commodity flows for policy, regulation formulation.	Transport Canada "Western Canada Truck Origin-Destination Survey 1978".	
	Statistical information on intra-provincial traffic patterns, volumes and commodity characteristics.	Assess changing demands and patterns of truck services for policy and regulation formulation pertaining to such techniques as entry control, rate control, safety.	Highway Traffic Board waybill studies and Department of Highways Origin-Destination Surveys.	There is a significant need to improve the limited statistics on intraprovincial traffic pattern and characteristics.
Highways and Transportation	Highways Highway construction price indices.	Capital programming and planning.	Statistics Canada.	Construction Price Statistics, Catalogue 62-007.
	Highway construction labour cost statistics.	Monitor Saskatchewan performance in this area.	Not available.	
	Highway construction accident data.	Monitor Saskatchewan performance in this area.	Not available.	
	Cost of constructing winter roads.	Monitor Saskatchewan performance in this area.	Not available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Saskatchewan - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Transportation - Continued	Highways - Concluded Nation-wide account for highways. This could provide information such as:	To have an overall view of highway travel pattern in Canada and different provinces.	Currently published in different format by different highway department and smaller municipalities.	
	Length.			
	Number of lanes.			
	Annual Average Daily Traffic.			
	Accident rates.			
	Jurisdiction.			
	Motor vehicle registrations.	Highway planning.	Statistics Canada.	
	Motor vehicle fuel consumption.	Highway planning.	Statistics Canada.	
	Distribution of vehicle registrations by vehicle size (wheel base or weight).	Highway planning.	Not available.	
	Pedestrian accidents on highways.	For use in pedestrian crossing improvement program.	Provincial Highway Departments.	
	Road and street length and financing.	General overview.	Not available	Statistics Canada, discontinued: was Catalogue 53-201, Road and Street Length and Financing.
	Road transport service.	General overview.	Statistics Canada.	Catalogue 53-006, Road Transport Service Bulletin.
	Railways Nation-wide report on railway crossings.	For use in railway crossing signalization program development.	Railway Companies.	Supplied on request.
	Nation-wide report on accidents at railway crossings.	For use in railway crossing signalization program development.	Provincial Highway Departments.	
	Nation-wide pattern of passenger movements on railways.	Study of passenger transport movements.	Railway Companies.	Occasionally supplied on request.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Saskatchewan - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Transportation - Continued	Railways - Concluded Nation-wide pattern of commodity movements on railways.	Study of freight transport movements.	Not available.	
	Bus Transportation Nation-wide origin and destination survey of bus travel.	Study of passenger transport movements.	Not available.	Study under way by Transport Canada and Statistics Canada.
	Saskatchewan-wide origin and destination survey of bus travel.	Study of passenger transport movements.	Not available.	Saskatchewan Transportation Co. has uncompiled records.
	Through bus movements in Saskatchewan.	Study of passenger transport movements.	Not available.	
	Air Travel Nation-wide origin and destination survey.	Understand the pattern of air movements in Canada. Relate growth and development in Saskatchewan to air trips to and from the rest of Canada.	Statistics Canada.	
	Province-wide origin and destination survey (particularly on Norcanair).	Study of pattern of air transport movements in Saskatchewan.	Norcanair.	Supplied on request.
	Airport utilization in Saskatchewan: Airport capacity. Flights/day. Current movements.	Analysis of the pattern of air transportation in Saskatchewan and for use in the decisions regarding the provincial airports assistance program.	Not available.	
	General Province-wide passenger origin and destination survey for all modes by trip purpose.	Study of the pattern of travel in Saskatchewan and in preparing long range transport plans.		
	Province-wide commodity origin and destination survey.			Partial information is available from Planning Branch, Saskatchewan Highways and Transportation.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Saskatchewan - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Highways and Transportation - Concluded	General - Concluded Pattern of movements of: Potash Grain Coal Timber Oil	Study of the pattern of travel in Saskatchewan and in preparing long range transport plans.	Partial information is available from Planning Branch Saskatchewan Highways and Transportation.	
	Production sites and rates for the commodities of potash, grain, coal, timber and oil.		Saskatchewan Mineral Resources.	
	Spatial distribution of employment in Saskatchewan.		Not available.	
	Spatial distribution of population in Saskatchewan.		Statistics Canada, Saskatchewan Hospital Services Plan (Saskatchewan Health). Not available	Catalogue 92-801, Federal Electoral Districts, 1976 Census.
	Trip rates for different communities in Saskatchewan.			
Mineral Resources	Mineral Commodity Statistics.	Energy policy and related policy decisions.	Statistics Canada.	
	Mineral commodity movements, origins and destinations by month.	To determine the efficiency of existing transportation systems for mineral (energy) commodities.		
	Existing rates and transportation costs of mineral commodity transportation.			
	Transportation modes of mineral commodities.			
Policy, Planning and Research				

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Saskatchewan - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Mineral Resources - Concluded				
Energy Conservation	Monthly refined petroleum product demand by province, by mode, by fuel type, in natural units.	To determine the characteristics of energy demand in the transportation sector, to assist in the development of policies and programs which would modify this demand, and to enable the measurement of the effect of those policies and programs which are implemented.		
	Yearly size and distribution of total energy demand within the transportation sector, by province, by mode, by energy type in natural units.			
	Number of vehicles, annual mileage (both urban and rural), load factors (both freight and passenger), by province and by mode.			
	Fuel efficiencies of existing vehicle fleets.			
Rural Affairs				
	Rural municipal road accident data from other provinces.	Comparison of accident situation in other provinces and types of accidents.	Not available.	
	Estimates of costs of different types of accidents.	Improve evaluations of highway cost/safety considerations.	Not available.	
	Yearly traffic volumes on rural municipal boundary roads or connecting roads (Manitoba and Alberta only).	Rural municipal roadway planning.	Not available.	
	Yearly train volumes on both railway systems (CNR and CPR).	Evaluate the need for improved safety at rural municipal road-railway crossings (signalization).	Not available.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Saskatchewan - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Rural Affairs - Concluded				
	Rural municipal roadway standards and the number of kilometres in each standard (i.e., oil surfaced, graded, bladed only, etc.).	Assist in planning and monitoring road standards in other provinces.	Not available.	
	Excavation price and construction cost per kilometre for rural municipal roads of different standards.	Assist in planning and monitoring road construction costs in other provinces.		
Tourism and Renewable Resources (DTRR)				
Tourism and Recreational Planning	Monitoring travel flows at access points to recreation areas.	Compilation of visitation data and traffic flows near recreation.	Visitation Reports Provincial Recreation Development Areas, Saskatchewan Tourism and Renewable Resources.	Annual Reports.
	Annual breakdown of average daily traffic flow figures on a seasonal basis for major tourism and recreation travel routes.	Comparison of traffic flow in summer months compared to base winter traffic as indicator of tourism and recreational travel.	Travel on Saskatchewan Highways, Saskatchewan Highways and Transportation. Travel on Saskatchewan Highways, Saskatchewan Highways and Transportation.	Should ensure annual consistency of locations along routes for automatic traffic recorder installations.
	International and inter-provincial border crossing statistics, surveys, and miscellaneous travel statistics.	Determine tourism and recreation patterns in the province and characteristics of visiting tourists.	Auto exit surveys of travellers on Trans-Canada and Yellowhead highways, Tourism Development Branch DTRR. (1973 and 1978).	Very useful information for this Branch, however, funding is a major factor in accomplishing these projects.
			Also Statistics Canada information.	Catalogue 66-202 (now Catalogue 87-401), Travel Tourism and Outdoor Recreation.
			Tourism Data Book, Tourism Development Branch DTRR.	Annual Report.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Alberta

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Education	School Bus Data.		Not available.	Bus route maps, financial data, costs of bus acquisitions and revenues from disposal (B.C. and elsewhere); fuel economy and energy saving information.
	Existing Statistics Canada International Border Crossing Statistics. Inter-provincial border crossings.		Not available.	Expansion of this survey to include origin by state and mode of transport.
Tourism and Small Business				
Transportation	Trip generation data: Residential. Industrial. Recreational. Commercial.	To determine trip generation factors. Used to determine future traffic volume in newly developed areas in order to plan for future road needs.	Department "Manual" Counting Program" Related to land use: Regional Planning Commission.	More detailed information required in this area. Existing data very limited.
	Daily hourly traffic volume statistics.	To determine the length and magnitude of peak periods, determine capacity deficiencies, establish traffic controls, determine design standards.	Department "Mechanical Counting Program", "Manual Counting Program".	
	Peak hour statistics.	To determine peak hour volumes. Used to determine lane requirements.	Department "Mechanical Counting Program".	
	Directional split. Lane volume statistics.	To determine lane volume split. Used to determine capacity, justify signals, plan future improvements. To determine lane volume utilization.	Department "Mechanical Counting Program". Department "Mechanical Counting Program".	Very little data existing for two-lane roads. Badly needed for updating highway capacity manual.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Alberta - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
	Annual Average Daily Traffic (AADT) and Average Seasonal Daily Traffic (ASDT) volumes on provincial roads.	To determine the extent of travel on roads within the province and measure the increase of travel on an annual basis. Used for future road planning.	Department "Mechanical Counting Program".	Week-day and week-end data not readily available through present computer analysis programs.
	AADT and ASDT conversion factors.	To factor manual traffic volumes to an AADT or ASDT base for total traffic or truck traffic.	Department "Mechanical Counting Program".	
	Monthly average daily traffic statistics.	To determine the seasonal volume changes on a monthly basis. Used for design and future developments.	Department "Mechanical Counting Program".	
	Trend line projections.	To determine the growth rate pattern at key points on primary highway system. Used to determine when existing facilities must be upgraded.	Department "Mechanical Counting Program" "Manual Counting Program".	
	Hourly variation plots.	To determine the hourly patterns and peak periods on a daily basis. Used to determine the duration of peak periods.	Department "mechanical Counting Program".	
	Growth rates.	To determine the growth rate trend of traffic on commuter, rural and recreational routes. Used to project future traffic volumes and determine future needs.	Department "Mechanical Counting Program" "Manual Counting Program".	Additional permanent traffic recorders should perhaps be added to system.
	Seasonal variation plots.	To determine seasonal changes. Used to evaluate growth changes.	Department "Mechanical Counting Program".	
	Weighted K factor statistics.	To determine absolute volume of total traffic, and truck traffic for peak, off peak, and night time periods. Used to determine noise levels.	Department "Mechanical Counting Program".	Information lacking on year round truck volumes. Such data required in order to develop truck conversion factors.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Alberta - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
	Turning movement classification data on primary and secondary roads.	To determine turning manoeuvres by vehicle classification. Used for design criteria, computing capacity, designing intersections, analysing high accident intersections.	Department "Manual Counting Program".	
	Vehicle classification data.	To determine the class of vehicles on roadway. Used for establishing structural and design criteria, determining capacity and road user cost, noise levels.	Department "Classification Program".	
	Vehicle classification occupancy statistics.	To determine the distribution of passengers per vehicle. Used to determine utilization of vehicle and transit needs, passenger flow.	Department "Classification Program".	
	OD Data on primary, secondary, bridges and ferries.	To determine trip and vehicle characteristics. Used to determine travel patterns, trip generations and attractions, evaluate existing networks, provide criteria for bypass needs, develop provincial trip table.	Department "OD Program".	
	Trip characteristics diagram.	To determine the trip distribution of thru, thru-stop, non-thru trips. Used to evaluate existing network, provide base for establishing truck routes, etc.	Department "OD Program".	
	Trip characteristic statistics.	To determine trip vehicle occupancy, registration and type. Statistics used to evaluate routes by trip purpose, home base of trips and determine out-of-province activity, to develop provincial trip table.	Department "OD Program".	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Alberta - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
	Truck axle data on primary, secondary and industrial roads.	To determine trip ends, equivalent single axle loads, commodity flow, license class and vehicle registration. Used to establish design standards for pavement design, set policies and regulations for international and intraprovincial trucking, validate/calibrate commodity flow model.	Department "Truck Axle Program".	Information sparse for many roads in province. Additional data should be obtained.
	Data bank.	Used to store demographic variables upon which transportation modelling procedures are based.	Statistics Canada 1971 and 1976 Census.	Accurate time series analysis difficult due to changing EA boundaries. Employment by place of work - essential to model is lacking. Time lag between Census and availability of statistics.
	Journey to work.	To develop trip table for urban, metropolitan areas, to evaluate peak hour level of service.	Statistics Canada 1971 Census. Edmonton Regional Transit Study.	Statistics Canada data too aggregated and improperly formatted. Also problems with reliability of records.
	Trip length frequency distance.	Used in the distribution of trips in the models.	Commodity flow study, passenger movement study.	More detailed work is required to build these curves by commodity and by commodity class, (e.g., analysis of Wescan Data, or CN-CP O-D records).
	Mode split.	Used for the modelling procedure prior to the assignment of trips.	Commodity flow study, passenger movement study.	Lack of sufficient information on passenger movements by air, rail and bus, on commodity movements by commodity by mode (rail, road, air, pipeline).
	Community surveys.	Profile community characteristics and transport facilities.	Boards of Trade and Development, house research.	Lack of supporting maps. Could be expanded to include rural municipalities.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Alberta - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Continued				
	User costs.	To calculate vehicle/cost ratio for various roads, determine most cost-effective level of service for a variety of conditions, benefit/cost analysis.	Not available.	Requires updating.
	Intra-provincial freight volume data and O-D survey on major corridors.	Industry sensitivity to various factors and to provide plan for major corridor improvements.	Not available.	Information lacking on corridors. Expansion needed.
	Intra-provincial private trucking operations data.	Accurate, up to date register of motor carriers and details on their undertakings/shipments. Determine possible improvements to the system.	Not available.	Very little information is available on the detailed movement of goods.
	Intra-urban commodity movements.	To monitor truck traffic flow and related industrial/commercial developments, plan urban truck routes.	Not available.	Intra-urban data scarce. Badly needed for truck route planning and locating warehouses. Data collection project should soon be undertaken.
	Up-to-date road user cost data for different types of highway vehicles.	Planning road improvements programs, determining cost-effective levels of service. Development of energy policy, plan and programs.	Not available. Road user costs consisting of motor vehicle running costs, travel time and accident costs.	Road user costs should be updated using recent information prepared by Stanford Research Institute.
	Intra-provincial and inter-provincial rail freight data.	Evaluate improvement, abandonment of rail lines, develop efficient multi-modal networks.	Not available.	Data not made available by rail companies and/or too aggregated. Data needed on an O-D City/Community/Industrial Plan/Port basis. This is one of the greatest gaps. Must be improved.
	Interprovincial freight volume data.	Development of multi-modal transportation policies, plans and procedures.	O-D regional traffic zone basis.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Alberta - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (camps)
Transportation - Continued				
	Intra-provincial and inter-provincial rail freight data.	To evaluate the improvement/abandonment of rail service.	Station to station traffic zone basis.	
	National freight systems data.	Co-ordination with other regional programs.	Survey of regional programs.	
	Transportation expenditures (road/rail etc.).	Determine extent of expenditures, calculate cost-effective level of service using previous cost. Compare modal unit cost. Determine tariffs.	Not available.	Rail fixed and variable cost data practically non-existent. (Not available.) Modal cost comparison and tariff justification cannot be made without this information.
	Intra-provincial Cordon freight volume data.	To conduct O-D, industry, sensitivity studies and to provide major corridor improvements.	Cordon commodity flow surveys.	
	Intra-provincial private trucking operations data.	To provide an accurate and up-to-date register of motor carrier undertakings.	Data sheet survey.	
	Intra-provincial air freight volume data.	To provide an air network for multi-modal purposes.	O-D traffic zone basis.	
	Intra-urban commodity movements.	To monitor traffic flow developments and improvements for major urban areas.	O-D traffic zone basis.	
	Various demographic information other than population statistics, i.e., auto ownership, wages.	To aid specific model calibration as well as for policy analysis.	Traffic zone basis.	
	Combined passenger and freight volume data.	To measure cost effectiveness in highway standards and maintenance.	O-D specific highway traffic flows.	
	Better O-D data for air, rail and bus system passenger movement.	To analyze passenger movements by the various modes across Western Canada on a regular basis.		More accurate O-D data.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Alberta - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation - Concluded				
	Detailed O-D data for air, rail, and bus system passenger movement.	Analyse passenger movement by mode across Western Canada (on a regular basis) to improve efficiency and level of service, and confidence in travel demand forecasting.	Not available.	Very little information on community and city movements. Bus and rail modes, total trip ends and modal transfers required.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

British Columbia

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Education	School bus data: Bus route maps. Costs of bus acquisitions and revenues from disposal, (B.C. and elsewhere). Fuel economy and energy savings information.	Evaluate cost effectiveness of current school bus services, scope and areas of potential improvement.	Not available.	
	Mineral commodity statistics.	Reference material for a wide range of mineral related policy decisions.	Statistics Canada.	
	Monthly survey of mines.	Monitor mining activity in the province.	Provincial Ministry.	Made available to Statistics Canada.
	Costs of transporting mineral commodities.	In order to assess impact of transport costs on mining activities in B.C. and to treat consistently products sold under different contractual bases (FOB Port, FOB Mine).	Not available.	
Energy, Mines and Petroleum Resources	Modal fuel consumption efficiency.	Evaluation inter-modal operating efficiency, effect of fuel tax.	Not available.	Information needs to be summarized, collated.
	Improvement in the reliability of present statistics.	Improve confidence in environment-related decisions using available statistics.	Not available.	Through improvements in the sampling of existing data sources, e.g., Bills of Lading.
	Breakdown of existing data by regions within provinces as well as by provinces.	Identify impacts of activities on a regional basis.	Not available.	Especially relating to major travel arterials, border point recreation access route and urban/rural transition zones.
	Data for monitoring the transportation of toxic chemicals, radio-active and flammable materials, and pipeline movements.	Identify potential environmental hazards associated with these movements.		
Environment				

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

British Columbia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
B.C. Ferry Corporation	Consumer Price Index, Vancouver and Canada.		Statistics Canada.	
	Provincial and national wages and salaries.		Statistics Canada.	
	Vehicles entering B.C. via Roger's Pass.	General research uses, especially forecasting demand for ferry travel.	Province's Highway Department.	
	Vehicles crossing inter-national border into B.C.		Not available.	Problems with acquiring federal statistics.
	Monthly traffic statistics from Canadian Pacific, Washington State Ferries.			
Forests	Monthly traffic statistics from Air West, West Coast Air, PWA, Air Canada, plus any carriers to Vancouver Island.			
	Forestry and general Economic Activity Indicators.	Reference material for a wide range of forestry policy issues.	Statistics Canada.	
	Data on Forest Products movements by O-B, volumes types of produce, mode of transport, etc.	Identify trends in transport of forest products and develop appropriate policies.	Not available.	
	Records of: (1) logging roads built, (compiled monthly). (2) airplane movements of men and equipment for forest protection purposes, (published annually) and (3) AdHoc studies of vehicles moving forest products in specified areas of the province, (vehicle weight, axle type, frequency of use, etc.).	Monitor activities in the forest product transport and protection systems.	Ministry of Forests.	
Municipal Affairs	Statistics on the mileage, capital, and operating cost of municipal roads.	To monitor existing municipal programs and to assist in planning programs.	Municipalities.	Room for improved consistency and scope.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

British Columbia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Tourism				
	International border crossing statistics.	Identify the makeup of tourists visiting British Columbia. Assess effectiveness of promotional campaigns, etc.	Statistics Canada.	Expansion of this survey to include origin by State and mode of transport desired.
	Inter-provincial border crossings.			
Transportation and Highways				
	<u>Air</u> Existing statistical information on first and second level air carriers.	Monitor performance on certain services. Assess implications of policy proposals.	Statistics Canada.	Especially: Transcontinental and Regional Air Carrier Operations (Catalogue 51-001); Air Carrier Operations in Canada (Catalogue 51-002); International Air Charter Statistics (Catalogue 51-003); Aviation Statistics Centre Service Bulletin (Catalogue 51-004); Air Passenger Origin and Destination, Domestic Report (Catalogue 51-204); Canada-U.S. Report (Catalogue 51-205); and Air Carrier Financial Statements (Catalogue 51-206).
	Statistical information on third level carriers.	Develop policies to encourage the development of Regional Air Services.	Not available.	Supplied by Carriers to Statistics Canada at present but not made available to provinces.
	Existing and forthcoming Statistics Canada publications on Air Travel.	Evaluate airline performance and identify developments requiring government action.	Statistics Canada.	Including special summaries to individual airlines.
	Patronage records for smaller airports.	Evaluate proposals to upgrade ground facilities, etc.	Not available.	Little information currently available.
	More information on air freight movements.	Develop policies regarding air freight movements. Assess the size and nature of industry.	Not available. Inadequate.	Types of commodities O-D.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

British Columbia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Highways - Continued				
Rail Information on National Railways.		Reference material for a wide range of Rail Policy issues.	Statistics Canada.	Railway Carloadings (Catalogue 52-001); Railway Operating Statistics (Catalogue 52-003); Railway Transport Service Bulletin (Catalogue 52-004); Railway Freight Traffic (Catalogue 52-205); Canadian National Railways and Canadian Pacific Limited (Catalogue 52-213).
Performance data on the British Columbia Railway and other provincial railways.		Develop policies regarding financial structure, subsidiary requirements.	Provincial Railways.	Currently being directly supplied on a confidential basis when requested.
Provincial railway accident statistics.		Evaluate regulatory requirements re safety.	Ministry of Transportation and Highways.	
Highways - Railway-oriented accidents.		Evaluate need for improved safety at certain crossings.	Ministry of Transportation and Highways.	
Municipal highway traffic counts near railway crossings.		Evaluate need for improved safety at certain crossings.	Ministry of Transportation and Highways.	
Marine Marine publications.		Reference material for a wide range of marine policy issues.	Statistics Canada.	Especially: Water Transport Service Bulletin (Catalogue 54-003); International Vessel Traffic Statistics (Catalogue 54-004 and 54-209); Water Transportation (Catalogue 54-205); Coastwise Shipping Statistics (Catalogue 54-005 and 54-210).

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

British Columbia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Highways				
- Continued				
<u>Marine - Concluded</u>				
	Commodity volumes tabulated by commodity, by ports of loading/discharging, by places of origin/final destination (especially whether within B.C.), by terminal (supplied on a confidential basis) and by Port Harbour Commission.	To plan future facilities, develop policy on marine issues, identify trends in commodity flows, etc.	Not available.	Present sources inadequate.
	Port and support system capacities and throughputs, financial performance.	Identify potential bottlenecks in system, evaluate port performance.	Not available.	Present sources inadequate.
	Towboat industry statistics: employment, economic performance, investment levels, vessel types in use/ordered, tonnages hauled, commodities and origins, destinations.	Evaluate this industry's importance to marine transport and formulate appropriate policies.	Not available.	Present sources inadequate.
	Numbers of charter parties signed, prime loading/discharging ports, terms (FOB CIF, etc.) and rates where possible (on a confidential basis).	Identify shifts in international shipping and assess implications for B.C.	Not available.	Present sources inadequate.
	Shipyard production statistics.	Monitor the health of this industry and develop appropriate government policies.	Not available.	Present sources inadequate.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

British Columbia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Highways - Continued	Highways Surface publications.	Reference material for a wide range of highway policy issues, e.g., licensing reciprocity.	Statistics Canada	Especially: Motor Vehicle Shipments (Catalogue 42-002 discontinued); Urban Transit (Catalogue 53-003); Road Transport Service Bulletin (Catalogue 53-006); Road and Street Length and Financing (Catalogue 53-201 discontinued); Passenger Bus and Urban Transit Statistics (Catalogue 53-215); Motor Carriers - Freight and Household Goods Movers (Catalogue 53-222); Oil Pipe Line Transport (Catalogue 55-001 and 55-201); Energy Statistics Service Bulletin (Catalogue 57-002 discontinued).
	Periodic intensive surveys of the commercial trucking industry. Accident data from other provinces and states. Estimates of costs of different types of accidents.	Urban road planning, assessment of importance of private trucking. Identify ways of improving safety. Improve evaluation of highway cost/safety considerations.	Not available. Other jurisdictions on irregular basis. Not available.	Especially with respect to urban goods movement. Requires organization of information exchange. Summaries required.

British Columbia - Continued

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Highways - Continued				
	<u>Highways</u> - Continued			
	General transport publications.	Reference material for a wide range of policy issues.	Statistics Canada.	Canadian Statistical Review Weekly Supplement (Catalogue 11-004); Field Crop Reporting Series (Catalogue 22-002); Energy Statistics Service Bulletin (Catalogue 57-002 discontinued); Inter-corporate Ownership, 1979-1980 (Catalogue 61-517); Market Research Handbook (Catalogue 63-224); Summary of External Trade (Catalogue 65-001); Exports by Commodities (Catalogue 65-004); Imports by Commodities (Catalogue 65-007); Exports, Merchandise Trade (Catalogue 65-202); Travel Between Canada and Other Countries (Catalogue 66-201); Quarterly Report on Job Vacancies (Catalogue 71-002 discontinued); Travel, Tourism and Outdoor Recreation (Catalogue 87-401); Population Projections for Canada and the Provinces, 1976-2001 (Catalogue 91-520).
	Surveys regarding motor vehicle movements.	Highway Planning - identification of bottlenecks, volume trends, nature of use, etc.	Provincial Highway Department.	Vehicle type, trailer type, occupancy, trip origin, today's origin and destination, trip purpose, home base, travel direction, date, time: presently collected at 73 points.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

British Columbia - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation and Highway				
- Concluded				
<u>Highways</u> - Concluded				
	Surveys regarding truck movements.	Highway planning - identification of commercial vehicle volumes and trends, evaluation of safety and other regulations, etc.	Provincial Highway Department.	Time, carrier name, number of trips, truck type and trailer type, number of axles, registration, license class, original origin, last origin, next destination, final destination, commodity codes, hazardous materials, nation, registered GVW, tire weight, actual GVW, axle weights, travel direction: presently collected at 20 points.
	Year-round traffic counts.	Highways and related planning.	Provincial Highway Department.	Presently collected at 32 points in the B.C. lower mainland.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Yukon

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Education	School bus data, costs/revenues, fuel economies, energy savings information.	Evaluation of school bus programs, planning.	Not available.	
	<u>Air</u> Statistical information on third level carriers.	Develop policies to encourage development of regional and local services.	Not available.	
	Patronage records of small northern airports and airstrips.	Evaluate proposals to upgrade facilities.	Not available.	
	Information on freight movements.	Evaluate nature and size of industry.	Statistics Canada.	
	Roads and Vehicles Periodic intensive surveys of commercial trucking.	Road planning, licensing policy.	Arctic Transportation Agency.	Has provided useful information on trucking in Yukon and NWT.
	Accident data from other regions.	Safety evaluations.	Not available.	
	Estimates of costs of different types of accidents.	Improve evaluations of highway cost/safety considerations.	Not available.	
	General transport publications with particular reference to northern environments.	Reference material for policy making.	Statistics Canada.	Unfortunately Yukon and NWT are often not included in surveys.
	Automobile and truck operation costs - all inclusive.	Negotiating contracts with trucking companies.	Statistics Canada.	
	<u>Air</u> Existing information on first and second level carriers.	Monitor performance, assess implications of policy proposals.	Statistics Canada.	Series 51 in the Statistics Canada Catalogue.
Tourism and Economic Development				

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Yukon - Concluded

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Tourism and Economic Development - Concluded				
Tourism and Economic Development/Highways and Public Works	Air - Concluded Existing and forthcoming publications on air travel.	Evaluate airline performance and identify developments requiring government actions.	Statistics Canada.	
	O/D studies of airline passengers.	Tourism strategy planning.	Statistics Canada.	
	Rail Information on local or regional railways, costs of operation, tonnages, etc. particularly costs of transporting mineral commodities.	Reference material for economic planning.	Not available.	Some available from local company, but no comparisons available.
	Performance data on provincial railways.	Evaluation, comparison policy planning, safety.	Not available.	
Tourism and Economic Development/Highways and Public Works	Surveys regarding motor vehicle movements, O/D, type of vehicle, purpose of trip, etc.	Tourism planning, highways planning, small business development.	Biennial survey by Tourism Yukon, frequent but scattered counts by Yukon Highways and Public Works.	
	International and inter-provincial border crossings, air, rail, highway.	Tourism planning, highways planning, economic planning.	Statistics Canada.	Would be useful to include type of vehicle and state of origin.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Northwest Territories

Department and/or Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Transportation	Provision of statistics in the areas of air, road and water transportation - with comparability between modes.			
	Passenger volumes, origins and destinations.			
	Freight volumes, origins and destinations.			
	Industry related statistics: Inventory of operating companies.			
	Financial statistics.			
	Operating statistics.			
	Employment.			
	Infrastructure:			
	Location of facilities.			
	Capacity and specifications.			
	Energy consumption and fuel sales in transportation.			
	Government operation and involvement.			
	Registration and licensing:			
	Air, road and water transportation operator licensing.			
	Vehicle registration.			

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Canadian Transport Commission

Committee or Branch	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
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Air Transport; Research

Air operating and financial statistics; O-D traffic counts; airport statistics.	To study the economic structure of the Air-line Industry and for the purposes of regulation:	Most of the data used are collected from the air carrier and filed with the Aviation Statistics Centre under the Aeronautics Act.	
	1. Transcontinental Air Passenger Forecasting.	Some information is obtained from the annual reports of the air carriers.	
	2. Travel patterns and socio-economic characteristics of air travel (domestic and international).		
	3. Economy of Scale Study.		
	4. Productivity Study.		
	5. Preparation of documents and case histories for regulatory hearings.		
	6. Competition Study.		
	7. Air Infrastructure.		
	8. Preparation of reports for changes in air regulations.		
	9. Bilaterals.		
	10. Air travel in regions.		

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Canadian Transport Commission - Continued

Committee or Branch	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Railway Transport; Research				
Traffic and Tariffs	Rail operating, financial and equipment statistics; O-D; traffic counts; infrastructure; bulk freight movements; passenger movements.	<p>To study the economic structure of the Railway Industry and for the purposes of regulation:</p> <ol style="list-style-type: none"> 1. Railway Costing Study. 2. Railway Productivity. 3. Availability of tank cars and energy supply allocation. 4. Railway Safety and the handling of dangerous goods. 5. Railway Safety characteristics. 6. Railway Service - on-time performance and service worth. 7. Railway Service to the Agricultural Industry (feed grain) in Ontario. 8. Grain movements and Branch Line Rationalization. 9. Handling and Shipment of Bulk Resources. 10. Competition Study. 11. Preparation of documents and case histories for regulatory hearings. 12. Processing of subsidy claims and related issues. 13. Rail Passenger Restructuring. 14. Freight Demand Forecasting. 	<p>Most of the data used are supplied by the railways and filed with the Rail Transport Committee under the Railway Act. Production and Consumption data obtained from the provinces are also used. The Canadian Wheat Board supplies a substantial amount of grain data. Some Statistics publications, e.g., Railway Freight Traffic are also used.</p>	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Canadian Transport Commission - Continued

Committee or Branch	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Water Transport; International Transport Policy; Research	Marine Operating and Financial Statistics; O-D; freight movements; Liner Conference Tar- iffs and Regulations Data;	To study the economic structure of the Marine Industry and for the purposes of regulation: 1. Freight Rate Index Study. 2. International and Domes- tic Liner and Bulk Trade. 3. Freight Demand fore- castings. 4. Movements of Bulk Re- sources. 5. Transportation along the Mackenzie River. 6. Coastal Trading.	A lot of information is ob- tained from the SI form tapes supplied by Statis- tics Canada. Some marine data are filed with CTC, e.g., information provided through the Shipping Confer- ences Exemption Act. Some External Trade Division data (on tape) are also used.	The quality of data from the SI tape should be im- proved. Moreover, the marine time series data should be continued. The results from DATAPLAN should provide some indi- cation of how future needs will be met.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Canadian Transport Commission - Concluded

Committee or Branch	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Motor Vehicle Transport; Research	Trucking operating and financial statistics; O-D; freight movements; for-hire and private trucking data.	<p>To study the economic structure of the Trucking Industry.</p> <ol style="list-style-type: none"> 1. Canadian For-hire Trucking and the Effects of Regulation - Cost Structure. 2. Rates Comparison. 3. Dominance of Large Carriers. 4. Cost and Capital characteristics. 5. Freight Demand forecasting. <p>To study the economic structure of the Bus Industry and, in special instances, for the purposes of regulation.</p> <ol style="list-style-type: none"> 1. Competition Study on Inter-city Bus Industry. 	<p>Statistics Canada For-hire Trucking Survey tapes and Motor Carrier Freight Survey Tapes.</p> <p>External Trade Division Data.</p>	<p>For-hire trucking data are available; private trucking data are scant. Bus O-D data are also required.</p> <p>Generally, information need includes O-D, commodities, tons, revenues, distances, rates and fares, financial characteristics. The results from the DATAPLAN project should reveal what is available for future use.</p>
Research	<p>Bus Operating and Financial Statistics; O-D; passenger movements.</p> <p>Data for all modes on transport services and facilities for the physically handicapped.</p>	<p>Study on the provision of transport services to the physically handicapped.</p>	<p>Not available.</p>	<p>Some demographic data on the physically handicapped and the type of services in the transport sector that are provided to the handicapped.</p>

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Statistics Canada

Field and Division	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Economic Statistics				
Input-Output, Gross National Product, Labour, Prices, Industry Product	Detailed revenues, expenses, profits, by industry groups. Main expense items needed; salaries, fuel, purchased transport, repairs, supplies etc.	To build-up an "industry profile", i.e., revenues, expenses by commodities.	Transportation and Communications Division.	Taxis. Small motor carriers of freight.
	Revenue tons and ton-miles by commodities by mileage blocks. Domestic only. By industry groups.	To derive the net output of each industry group and its contribution to national estimates (e.g., gross domestic product by industries). To estimate inter-provincial trade.	Transportation and Communications Division.	Rail commodity O-D. Private trucking. Couriers. Value of shipments.
	Motive fuels sales.	To assist in estimating personal expenditures on services.	Transportation and Communications Division.	
	Registrations (motor vehicle).		Not available.	
	Road and street mileage and expenditures.			
	Employees, salaries and wages by industry groups.	To assist in estimating labour income.	Transportation and Communications Division.	
	Revenues, passengers carried by intercity bus carriers by routes.	To assist in developing a price index.	Transportation and Communications Division.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current Status or source	Remarks (gaps)
Strategic Planning				
Economic and Regional Analysis (DERA)	Macro economic - RDP, value added, prices, employment, investment in transportation services industry and transport equipment industry.	Macro economic forecasting for transport sector.	Statistics Canada.	Difficult to break out transportation involvement of government sector in the various series on a consistent basis.
	Freight - loadings and unloadings, commodity detail, on a true O/D basis, by mode.	Freight forecasting.	Rail: O/D from CTC, CIGCT. Loadings, Unloadings from Statistics Canada. Marine: O/D from Statistics Canada, St. Lawrence Seaway Authority. Port activity from National Harbours Board. Trucking: For-hire from Statistics Canada. Private not available.	Lack of true O/D information. Lack of information on intermodal shipments.
	Passenger: Passenger counts, fares, true O/D information by mode, service variables.	Multi-modal passenger forecasting.	Automobile: not available.	Insufficiently reliable on commodity, O/D basis. Projects underway with Statistics Canada to improve for-hire, establish private.
	Financial data: costs, revenues by category, expenditures by category, by mode, by carriers, levels of government.	Ongoing analysis of profitability, monitoring, assessing of need for subsidies. Special projects.	Air: Statistics Canada for passenger counts. Airline guides for fares. Bus: Passenger counts not available. Fares: Bus, guide, companies. Rail: Passengers: CN "PARS" system to 1978, hopefully information from RESERVIA will come on stream in 1981. Fares: Rail guide, VIA Rail. Statistics Canada. Automobile costs per passenger-mile from Canadian Automobile Association.	Passenger counts synthesized from provincial highway counts. O/D's for third-level carriers not available except on system basis. Project underway with Statistics Canada.
Strategic Policy				Road mode - Difficult to break out expenditures by levels of government on road infrastructure.

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Strategic Planning - Continued				
Strategic Policy - Concluded	Capacity and utilization data: load factors, passenger-miles by mode. Prices for services offered in different modes.		Carriers, regulatory bodies.	Gaps: Private trucking: cost, use. Rail: 1978-1981, use. Air: Freight bill for international shipping. Marine: Freight bill for international shipping. Bus: Passenger-miles. Categories are too broad.
Systems Planning				
Returns on investment in various modes.	Detailed origin-destination, passenger and freight (by commodity) and by mode.	Multi-modal planning.	See DERA above.	
	Fleet size, employment, revenues, costs by mode, load factors, capacity, fuel consumption.	Calculation of efficiency of modal system.	Carriers, Statistics Canada.	Highway and Rail: Passenger and freight costs and efficiencies hard to break out. The data in column 1 are gap areas where substantive data and information work is needed Strategic Studies (DGST) and DERA will be assessing further in coming year.
	Safety data and information in: 1. basic gap areas such as human factors, trucking, pedestrians, bicycles, etc. 2. public perceptions of transportation safety, and 3. linkages between accidents and causal factors.	Determining need and justification for safety purposes.	Good modal data bases in all modes within Transport Canada (and CTC for rail).	
Strategic Studies (DRSS)				
Fuel consumption data related to transportation output by mode, carrier, vehicle type, route.	Fuel cost as a factor in total operational costs.	Energy consumption. Energy factors in transport, planning, etc.	For air mode: Statistics Canada publications: Transcontinental and Regional Air Carrier Operations (Catalogue 51-001); Air Carrier Operations in Canada (Catalogue 51-002); Transport Canada models and carrier Annual Reports.	Fuel consumption data are generally insufficient. Fuel cost of operation data are partially available.

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Strategic Planning - Continued			For rail mode: Statistics Canada Railway Transport Part II, Financial (Catalogue 52-208) Part III, Equipment Track and Fuel (Catalogue 52-209) and Part IV Operations and Traffic (Catalogue 52-210). Transport Canada models; CN; CP.	
Strategic Studies (DRSS) - Concluded			For bus mode: Statistics Canada Daily (Catalogue 11-001). Transport Canada models. For urban transit: Statistics Canada Urban Transit (Catalogue 53-003). Canadian Urban Transit Association. Statistics Canada Labour Force Survey. (Catalogue (71-)	
	Fuel price information.		Truck mode: Statistics Canada, Motor Carrier Freight and Household Goods Movers, (Catalogue 53-222). National Energy Board, Statistics Canada, Energy Mines and Resources.	Partially available.
	Passenger, freight origin and destination data by route, mode, carrier, vehicle type.			
	Fuel distribution data by type of fuel.		Not available or next to non-existent.	DRSS now represented on groups now working with Statistics Canada to improve these data (e.g., private trucking, for-hire trucking). Data for air mode soon to become available under the Aeronautics Act.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Strategic Planning -				
Concluded				
Transportation Development Centre (TDC)	<ol style="list-style-type: none"> 1. True origin-destination traffic flow: Consistent information for all modes. Disaggregated data. 2. Traffic flows in specific links or terminals: Capacity limits. Peaking problem. 3. Fleet data for all modes: Classification of vehicles. Utilization. Cost data. 	<p>For planning experimental demonstrations of new or altered modes in specific markets.</p> <p>For evaluating the requirements for and the benefits of infrastructure or operational innovations.</p> <p>For evaluating the requirements for and impacts of new vehicle technologies.</p>		<p>TDC does not have continuing requirements for data in any clearly defined area. Its needs are dependent on the projects in house at the time, and often are met by special data gathering exercises. Most of the data are available for the air mode.</p>
Air				
Policy, Planning and Programming Statistics and Forecasts.	Passengers, miles and hours flown, goods and mail carried by airport and by carrier. Financial data on revenues, expenses and income derived from air carrier services. Origin/destination aircraft type.	Planning, forecasting, monitoring.	Aviation Statistics Centre.	A project has been undertaken by the Aviation Statistics Requirements Committee to cover in-depth current and future data needs.
Airports and Construction Services.	Infrastructure: Pedestrian flow patterns in terminals, additional groundside and airside information. Airport user characteristics, traffic volume, traffic accumulations, vehicular loadings.	Planning.	Transport Canada surveys, irregular.	
		Planning.	Transport Canada surveys, irregular.	

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Air - Concluded				
Airports and Construction Services - Concluded	Infrastructure: Airports, licensing and internal reports, regular update, airport identification, type of license, owner, operator, available public facilities, available nav aids, location and elevation, acreage owned by Transport Canada, runway configuration and length.	Internal database.		
	Number and location of bird strikes, damage to aircraft, types of birds.	Monitoring of conditions affecting safety.	Sample from pilots.	
	Accident/incident summary, major national and regional carriers.		Carriers.	
Marine				
	1. General Information	For a global and comprehensive picture of vessel operation in specific areas and vital information to policy makers and planners. (c) Is used also for bilateral trade agreements. For cost-recovery purposes and contacts with Shipping Agencies if problems arise.	(a) S1 (Statistics Canada). (b) S1. (c) S1. (d) A-6 General Declaration (Revenue Canada Customs). (e) S1.	The S1 International Shipping Report was discontinued at the end of 1979. Data for 1980 will be available in September 1981 in the new A-6 international data base, using documents from Revenue Canada. (a) The S1 covers only 80% of the marine carriers. (b) For flag or nationality of vessel, data are for foreign flag shipping controlled in Canada or national flag shipping controlled abroad.
	(a) Name of vessel.			
	(b) Port of call/nationality of vessel.			
	(c) Managing owner or operator of vessel (or shipping line).			
	(d) Ship owner. (e) Representative agent.			
	2. Vessel Operation	In regulating and planning international water transportation activities in Canada, like imbalance of trade, competition, trade agreements.	(a) CTC and S1. (b) S1.	(b) First port of call and final port of destination are not reported.
	(a) Type of ship's service (conference, non-conference, tramp). (b) Traffic flows.			

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Marine - Continued				
	2. Vessel Operation - Concluded (c) Charter status of vessel.	(c) Is also used for analysis of the type of shipping services provided to different Canadian geographical regions.	(c) S-2 (Statistics Canada).	
	(d) Financial charges.	For fee collection system.	(d) A-6 (Bill of lading and manifest).	
	3. Ship Registries (a) Registration number.	Static vessel information for users interested in ocean shipping and international trade.	(a) S-2, Lloyd's Register of Ships and National Harbours Board vessel declaration.	
	(b) Capacity measures: Deadweight tons (DWT) Gross Registered tons (GRT) Net Registered Tons (NRT).	(b) Is also used in regulation of water transportation activities. For planning, forecasting and regulatory purposes.	(b) S1 and A-6 (General Declaration).	(b) Only vessels of 15 NRT and over and tugs of 15 GRT and over are surveyed.
	(c) Type of vessel.		(c) S1, Lloyd's Register of Ships.	(c) Naval, maintenance and research vessels are excluded.
	(d) Ice class, ice strength.	(d) Is also used to establish pattern of routes for Arctic policy vessels and to calculate risk analysis according to ice class and frequency of trips.	(d) Lloyd's Register of Ships.	
	(e) Age.	(e) Is also used to identify the risk of accident for the vessels on specific routes.		
	4. Cargo Movement (a) Commodity description. (b) Commodity weight. (c) Commodity volume. (d) Type of cargo flow. (e) Commodity origin and destination. (f) Port of loading for each commodity.	For users who need description of all commodities handled in each port. For general analysis of transportation trends like market share studies, trade agreements, cost-recovery, policies, subsidies.	(a) S1 (b) S1 (c) Not available. (d) S1 (e) S1, A-6 Bill of Lading and Manifest (f) S1 (g) S1	(a) Available for 221 identified commodities. Sometimes it is difficult to code the proper commodity group because of aggregated summaries. Products in containers are not identified.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Marine - Concluded				
4. Cargo Movement - Concluded	(g) Port of unloading for each commodity.	(b),(c) Are also linked with vessel activity and cargo origin - destination statistics.	(h) A-6 Bill of Lading (i) A-6 Bill of Lading	(f),(g) Statistics are published for only eight selected commodities. Other commodities available upon request.
	(h) Types of packaging goods.	(c) Is used for chemicals coming in liquids (for dangerous commodities).		
	(i) Transportation charges (freight charges).	(d) Is also used for linking other modes of transport at domestic and international level.		
		(e) Is also used in analysis of commodity movements for cargo forecasts and identification of appropriate regulations.		
		(f) Is used for analysis of cargo flows from Canada to foreign areas.		
5. Port Activity	(a) Arrivals and departures of ships.	(g) Is used for forecasting water transportation needs.	(a) SI	For port activity, the geographical boundaries of the ports included in Statistics Canada census do not necessarily correspond to the administration limits of these ports.
	(b) Tonnage of cargoes loaded, unloaded and transhipped.	(h) To determine toll charges that could vary for different types of packing. It could influence the type of decisions taken in case of emergencies.	(b) SI	
	(c) Type of handling.	(i) For regulatory policies.	(c) A-6 General Declaration	
		(c) For port authorities, water carriers as indicators of the nature of the cargo. To provide information on containerized freight.		(b) Tonnage statistics are available for ports which trans-ship more than 30,000 tons.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Surface				
Policy and Analysis	<p>Rail Passenger Services Operational: fares, frequency, journey times, by routes. Financial: cost, revenues deficit by routes. Demand: O/D and/or flows by each route. Other: passenger distribution by type of fare, fare policy.</p> <p>Inter-city Bus Passenger Services For each bus company: Operational: route network, fares, frequency, journey times by routes. Financial: financial data by each type of business (passenger, parcel Express, Charters, Tours, etc.). Route by route financial data for passenger carrying operation. Demand: O/D and/or flow data by each route. Other: passenger distribution by type of fare, regulatory requirements and extent of industry regulation, fare policy.</p>	Bus/Rail Competition study.	Transport Rail Directorate. Canadian Transport Commission. VIA Rail.	Lack of O/D or flow data at present. Only partial data available.
			Motor Carrier Branch. Bus Companies. Statistics Canada.	Most data have been requested from bus companies. Bus companies do not have necessary system in place for collecting these data. Only partial data available.
Planning, Finance and Administration	Road and street length, expenditure, by province.	Publication, annual report to Cabinet by Interdepartmental Highway Committee, public enquiries and planning and apportioning financial aid to provincial highway projects.	Formerly Statistics Canada, to 1976.	Gap now exists.
Highway Transportation Motor Carriers (SHM)	For-hire Trucking (a) Increased validity and reliability of Statistics Canada Series.			(a) Currently being studied.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Surface - Continued	For-hire Trucking - Continued			
Highway Transportation Motor Carriers (SHM) - Continued	(b) Energy utilization statistics.	(b) Background for allocation and rationing plans.	(b) Not available.	(b) New Energy Supplies Allocation Board and Transport Canada projects.
	(c) Owner-operation statistics.	(c) Important component of industry but no measurement available.	(c) Statistics Canada.	(c) Very limited resources.
	(d) Empty trips.	(d) Important data re energy conservation and operational efficiency.	(d) U.S. data.	
	(e) Better data on business failure.	(e) Better able to compare impact of different regulatory structures.	(e) Statistics Canada.	(e) Existing data not accurate.
	(f) Time series on equipment utilization.	(f) Many uses.	(f) Some cross-sectional studies.	(f) Studies out of date.
	(g) Time series on international trucking O/D.	(g) Important re U.S. de-regulation and impact on Canada.	(g) One study completed.	(g) Requires more study for time series.
	(h) Up-to-date company ownership data.		(h) Statistics Canada.	(h) Much available data out of date.
	(i) Statistics on "freight forwarders".	(i) Important components of industry but little data available.	(i) Not available.	
	Private Trucking			
	(a) Virtually no data available now.	(a) Over 65% of trucking is private. Measurement is important.	(a) Not available.	(a) Study currently initiated with Statistics Canada and Transport Canada.
	(b) Need list of participants.			
	(c) Energy utilization statistics.			
	(d) Measurement of output and performance parameters, etc.			

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Continued

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Surface - Continued				
Highway Transportation Motor Carriers (SHM) - Concluded	Bus Passenger O/D Traffic Flow Data.	Analysis of passenger movements. Network studies.	Biannual survey soon to be commenced by Statistics Canada for SHM.	Data can be had from ticket stubs retained by carriers.
	Load factor data	Analysis of passenger movements. Fleet utilization studies. Demand analysis.	Currently no reliable data.	May be able to derive estimates from Statistics Canada Bus Passenger O/D Survey.
	Route-specific financial and operating data.	Studies of competition, regulation. Special relevance to issue of cross-subsidization.	Monthly and annual reports give passengers carried, vehicle miles and revenues for routes but this data is highly confidential and frequently incomplete. No route-specific cost data.	Allocation of joint and common costs to specific routes is frequently arbitrary.
	Up-to-date fare information.	Studies of intermodal competition and regulation. Demand analysis.	Official Canadian Bus Guide provides route itineraries, frequencies, departure and arrival but limited fare information.	Fare information is currently obtained by specific requests to carriers; time consuming.
Road and Motor Vehicle Traffic Safety	General: Aggregated annual frequencies of accidents and casualties, by severity, by province, by major classes of vehicles, roads, road users and time. Accident data: Accidents and casualties by severity, distributed by all variables.	General: To meet public demand for road accident information from other Federal Government Departments, international agencies, municipalities, researchers, general public. Accident problem identification/prospective evaluations of countermeasures.	Provincial accident records from police reports on Branch's "TRAP" system; reports from Branch's multidisciplinary accident investigations (MDAI).	Still required: more objective measures of some crucial features of accident conditions, e.g.; precrash driver and vehicle conditions, driver actions and manoeuvres, and crash-phase events, requiring expert assessment or measurement.
	"Exposure" data: on the general incidence of all factors contributing to accidents.	As above, to allow calculation of relative risks of accident/casualty per unit exposure.		

Transport Canada - Continued

Administration and/or Directorate	Transportation statistics requirements: Types of data needed	Purpose or use of statistics	Current status or source	Remarks (gaps)
Surface - Continued				
Highway Transportation Road and Motor Vehicle Traffic Safety - Continued	<p>Components of the system: e.g., numbers of vehicles of certain ages and types registered, numbers of drivers and other road users, length and conditions of roads.</p> <p>Conditions of the system, components in use, e.g. vehicle conditions (safety, performance), driver condition (alcohol use), safety system use (seat belts).</p> <p>System use, especially vehicle-km, classified by all of the variables contributing to accidents, also measures of pedestrian activity.</p> <p>Accidents and casualties for particular treatment and control groups, or for treatment and control group, or for treatment group before and after. Measures and impacts of treatment on intermediate variables, small-area and small sub-group detail.</p> <p>Incidence of vehicle defects numbers of accidents/casualties resulting.</p> <p>Sales of light vehicles by model.</p> <p>Fuel consumption on test of vehicles by model.</p>	<p>Computation of relative risks of accident/casualty per vehicle-kilometre.</p> <p>Evaluation of impacts on accidents/casualties of countermeasures upon implementation.</p> <p>Identification of defects to Minister, retailer and current owner, as per Section 8, Motor Vehicle Safety Act.</p> <p>Monitor compliance with government standards for fuel consumption. Published fuel consumption figures for individual models of vehicle in Transport Canada Fuel Consumption Guide.</p>	<p>Formerly Statistics Canada, now provinces.</p> <p>Branch roadside surveys of driver's alcohol use (1974), seat belt use (1975, 1977).</p> <p>Most comprehensive source will be Branch's National Driving Survey.</p> <p>Conducted by branch as resources allow.</p> <p>Individual owners, consumers associations. Branch studies.</p> <p>1. Sales of vehicles by model from manufacturer and from R.L. Polk & Co.</p> <p>2. Test-cycle fuel consumption records by model from manufacturers.</p>	<p>Data sparse, crude provincial totals. Still required: continuous, detailed information as per column two.</p>

Required: Fleet and average kilometrage for fleet.
Overall incidence in fleet rather than volunteered complaints.
Data on fuel consumption and km travelled on-road, by model.
General data on fleet size, composition by model year and scrappage rates.
Data describing maintenance practice.

SUMMARY OF REQUIREMENTS FOR TRANSPORTATION STATISTICS IN CANADA - Concluded

Transport Canada - Concluded

Administration and/or Directorate	Transportation statistics requirements type of data needed	Purpose or use of statistics	Current status source	Remarks (gaps)
<p>Surface - Concluded</p> <p>Highway transportation Road and Motor Vehicle Traffic Safety - Concluded</p>	<p>Fuel consumption and km travelled on road of vehicles by model, by region, by season, by type of use.</p> <p>Typical Canadian driving cycles.</p> <p>Fleet size, composition by model and model year, scrap-page rates.</p> <p>Data describing maintenance practices affecting fuel consumption.</p> <p>Miles of roadway in specified classes (including speed limit).</p> <p>For each roadway class: Traffic volumes by time, Traffic composition (by vehicles class) by time.</p> <p>Adjacent population density (daytime/night-time/weekend).</p> <p>Fixed noise control measures (barriers, berms).</p> <p>Noise level measures for all combinations of the above variables.</p> <p>For Canadian railways, financial data including operating expenses and indirect expenses, and revenue; also operating data on passengers, passenger-revenues, train-miles, fuel consumption, operating employees, trip times.</p>	<p>Development of vehicle noise standards, consideration of alternative noise control measures.</p>	<p>3. (Very limited) test-cycle fuel consumption records from Transport Canada testing.</p> <p>Some noise nuisance measures from National Survey of Transportation Noise Exposure conducted in 1978. Capability of estimating from traffic volume/composition and hence general annoyance response for current vehicles.</p> <p>Not available.</p> <p>VIA Rail. Most items currently supplied.</p>	<p>Data describing typical driving cycles.</p> <p>Negotiations underway with VIA for missing items.</p>
<p>Railway Transportation Railway Passenger</p>		<p>Development of Computerized Information System</p>		

